Service Manual

Coffe machine
DE DIETRICH
DED700X

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CHAPTER 1
INTRODUCTION

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1.1 Appropriate documents

In order to make repairs the following documents must be available:

Instruction notice specific to the model
Technical documents specific to the model (diagrams, exploded views)

1.2 Tools and equipment

The standard set of tools is needed plus the following special items :

1 special screwdriver with a T09 and T10 tip, Pozi Drive type screwdriver and a number 04 hex key.

1 Digital thermometer measuring range =200°C.
It should be usable for measuring liquids and surface temperatures.
1 pair of Oetiker clamp pliers
1 cutting pliers

1.3 Safety Instructions

It is recommended to read the machine's instruction notice before carrying out any maintenance. Comply to current standards for repair of household appliances.

Before beginning repairs on the machine, unplug it first. Turning the main power switch off is not sufficient to avoid all risks of electrocution.

This appliance belongs to isolation class I. Once the repair has been made test its isolation and dielectric strength.

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CHAPTER 2
TECHNICAL INFORMATION

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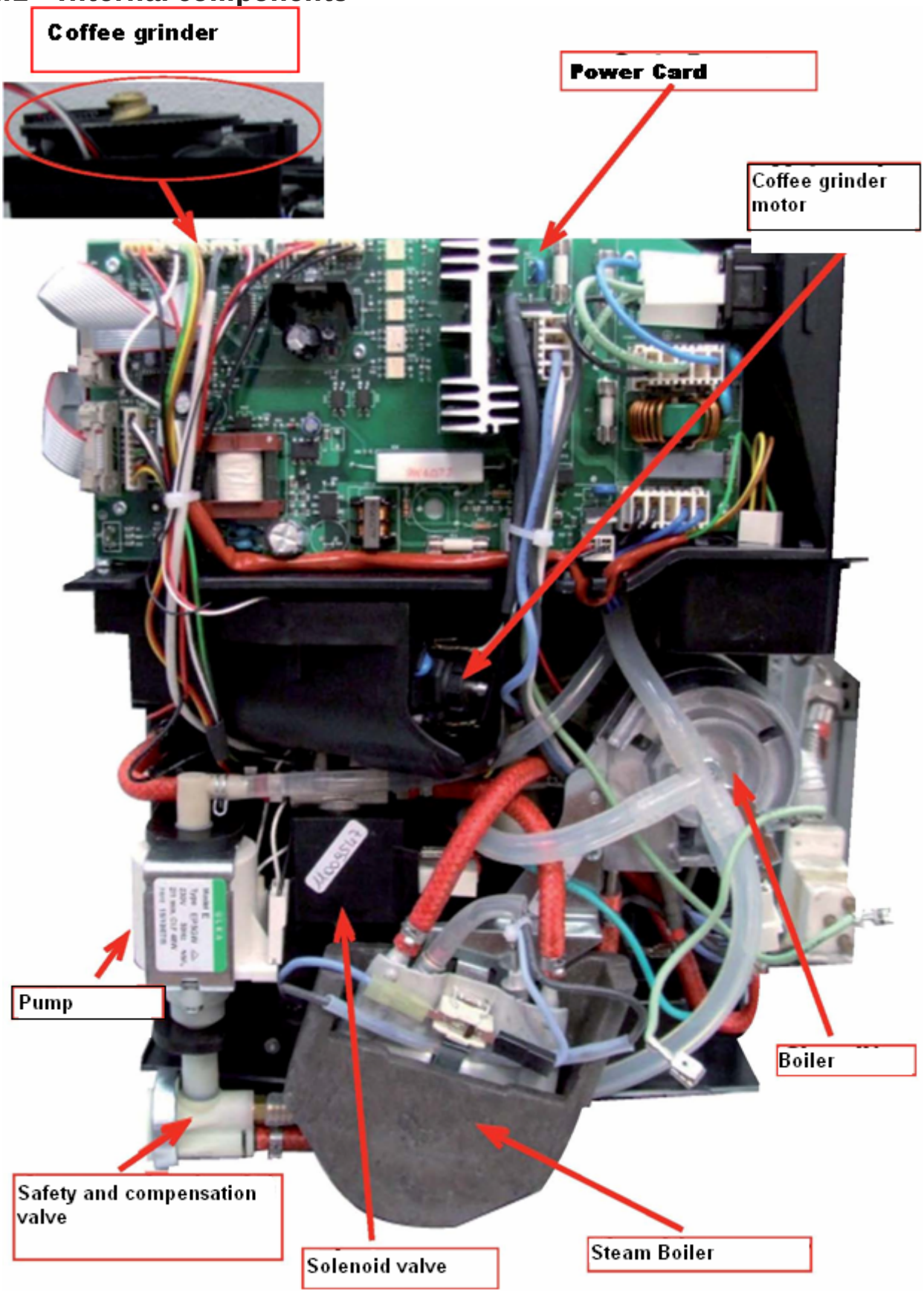
2.1 Internal components



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2.2 Product technical data

Power supply and consumption	230 V~; 50 Hz; 1250 W 120 V; 60 Hz; 1250W 100 V; 60 Hz; 1250 W
Safety devices	Coffee boiler 2 175°C safety thermostats – steam boiler 175°C thermostat and 229°C heat fuse
Temperature control	NTC Sensor
Coffee resistor	Stainless steel heat exchanger - (1090W), for coffee or hot water.
Steam resistor	Aluminium tube heat exchanger - (1000W) for steam production (high speed steam production)
Pump	Ulka vibration pump; 230V; 50 Hz; 48 W 120V; 60 Hz; 41 W 100V; 50/60 Hz; 55 W
Safety relief valve	Safety pressure relief valve with compensation valve
Water filter	Placed in the water tank
Coffee grinder (grinding wheel)	Threaded brass spindle, ceramic grinding wheels
Motor	DC 230 V / 120 V / 100 V
Absorption	During temperature rise : approx. 4.8 A (230 V); 9 A (120V); 11 A (100V)
Absorption in energy-saving mode (stand-by)	Approx. 20 Watt/h
Main pump	pressure 15 bar
Dimensions LxWxH (in mm)	595/325/458
Weight	Approx. 16 kg
Coffee holder capacity (beans)	Approx. 300 grams
Water tank capacity	Approx. 2 litres at the maximum level
Heat exchanger volume	Approx. 1.0 cm^3 (10 ml volume)
Water loading time	Approx 10 seconds at start-up.
Temperature rise time	Approx. 1.5 minutes.
Steam generation	Immediate

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CHAPTER 3 PROGRAMMING DIAGNOSTICS AND TESTS

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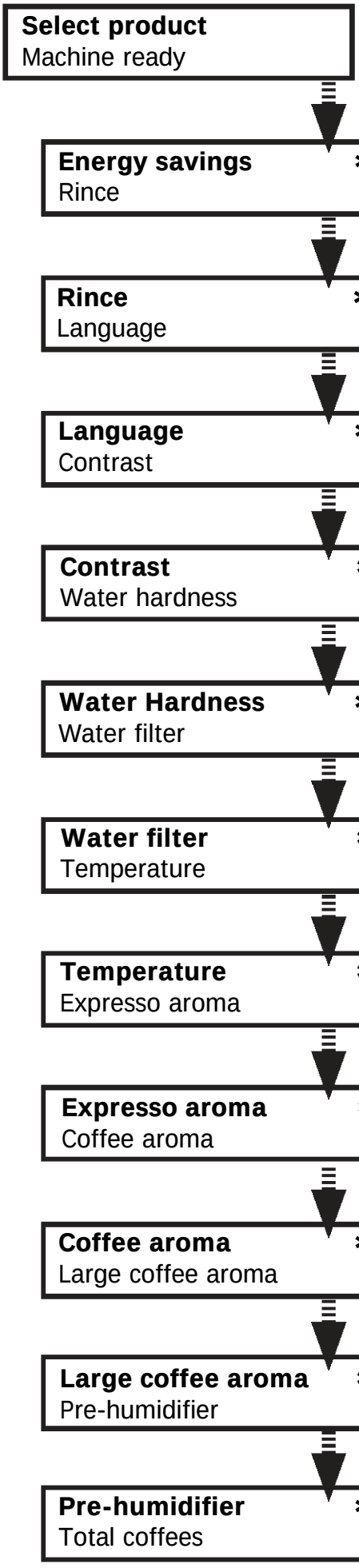
3.1 Programming by the user



On the main page press on the MENU key to access the programming pages

Press the OK key to go to ENERGY SAVING mode and reduce power consumption. Press OK to restart the machine

The machine automatically eliminates water remaining in the internal piping immediately after the heating phase so that only fresh water is used to make the coffee

This function is used to choose the message display language.

This function is used to set the contrast in order to be able to view the instructions clearly

The hardness of the water used to make the drinks varies from region to region. This is why the machine should be set to the correct degree of hardness for the water being used

This function is used to check the water filter (if one is used) by warning the user when replacement is needed. The “REINITIALISE” command should be used every time a new filter is fitted.

This function is used to make warmer or hotter coffee by setting water temperature (high, medium and low)

This function is used to set the dose of coffee (quantity) to grind when making an expresso (strong, regular, weak)

This function is used to set the dose of coffee (quantity) to grind when making a coffee (strong, regular, weak)

This function is used to set the dose of coffee (quantity) to grind when making a large coffee (strong, regular, weak)

The pre-humidifer process increases the coffee aroma thus giving the coffee an excellent taste. This function is used to humidify the coffee before preparing it.

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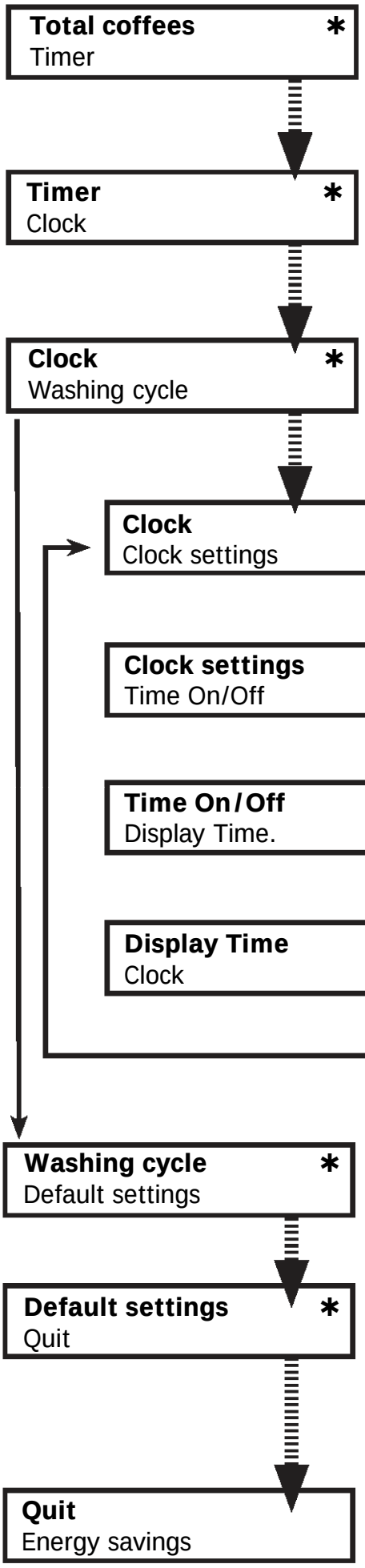

This function is used to display the total number of coffees made by the machine

This function is used to save energy when the machine is not used for long periods. This function is pre-set by the manufacturer and automatically switches the machine to ENERGY SAVING mode when the set time has passed.

This function that can be switched on and off by the user can be used to :
- display the time when the machine is in “ENERGY SAVING” or “SELECT FUNCTION” mode
- to select the machine start and stop times

Set the start and stop times

Set the current time

Set the start and stop times

Set time display

This function is used to carry out a washing cycle for parts used in coffee distribution

This function is used to reset the default factory settings
Warning ! : custom settings are lost when resetting factory settings.

This function is used to quit the programming functions.

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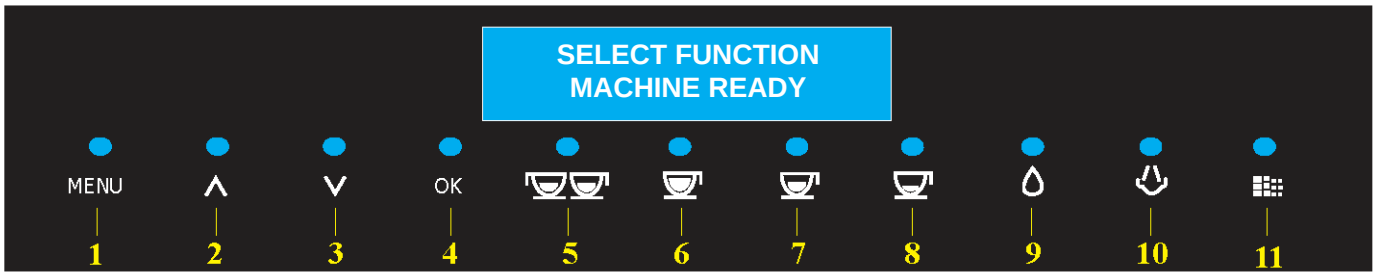
3.2 Diagnostics Mode



To go to “diagnostics mode” turn on the machine **Auto-diagnostic** is displayed.
Within the first 5 seconds, press the **8-9-8-2** keys in order to display **Programming energy saving** and then press **OK** to display **Software**

The programming menu is displayed.
Keys “**2**” and “**3**” are used to scroll through the settings.
Key “**4**” is used to change the settings and confirm.
Key “**1**” is used to quit diagnostics mode.

	MACHINE SETTINGS	SETTING RANGE	FUNCTION
1	1 Large coffee – 520 impulses	50 – 800	Number of pump impulses to make a large coffee
2	1 Expresso – 170 impulses	50 – 800	Number of pump impulses to make an expresso coffee
3	1 Coffee – 290 impulses	50 – 800	Number of pump impulses to make a coffee
4	Hot Water – 260 impulses	50 - 800	Number of pump impulses to distribute hot water
5	Steam timer 20 seconds	5 - 120	
6	K1 Setting K1 Value 8	1 – 50	K1 is the temperature rise factor. High value = high factor (do not modify the selected value)
7	K2 Setting K2 Value 30	1 – 50	K2 is the influence of frequency of use on the temperature setting. High value = low influence (do not modify the selected value)
8	Normal temperature 90 °C	70 – 130 °C	**Normal temperature**
9	High temperature 110 °C	70 – 130 °C	**High temperature**
10	Temperature of the 1st coffee 117 °C	70 – 130 °C	**Temperature of the first coffee**
11	Total grounds 0	0 – 50	Coffee grounds counter
12	Stop grounds 12	0 - 50	Limit beyond which the coffee grounds tray should be emptied
13	Total water	0	Boiler 1 total distributed water (not modifiable)
14	De-scaling water ml --	0	When the set value is reached the “de-scale” message is displayed (not modifiable)
15	Water filter ml --		Quantity of water filtered since the Aqua Prima filter was activated
16	H2O after de-scaling message ml --	0	Quantity of water used since the “de-scale” message was displayed
17	Hot water flow l/h 20	06 - 26	Flow in l/h during hot water distribution
18	Hot water pump settings	62430	Pump settings for water distribution (do not modify the selected value)
19	Water tank – number of impulses 0	0	Water tank counter
20	Water tank stop – n° of impulses	750	Water tank stop

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21	Number of washing cycles	0	Washing cycle counter
22	Washing cycle status	0	Status of the washing cycle
23	De-scaling - Number	0	Number of de-scaling cycles
24	De-scaling status	0	De-scaling status
25	Phase code	128	Machine status indicator *
26	Last maintenance day	1 - 31	Last maintenance date (day)
27	Last maintenance month	1 - 12	Last maintenance date (month)
28	Last maintenance Year	2000- 2050	Last maintenance date (year)

*** See table**

Phase code description

BIT	VALUE	DESCRIPTION
0	**1**	**Fill the machine (not enough water)**
3	**8**	**Start of coffee cycle. The distribution group is full of coffee**
5	**32**	**Machine waiting**
7	**128**	**II BIT = 1 failure**

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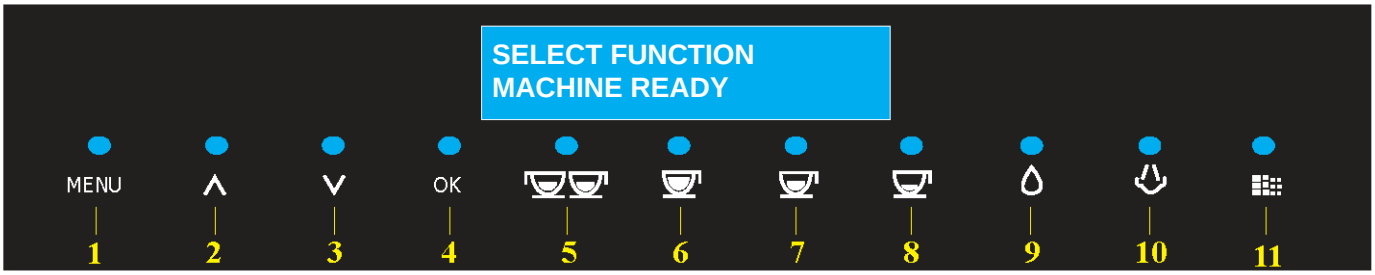
3.3 Test Mode

Test mode is used to detect failures more easily and thus reduce the time needed to find them.



To enter TEST MODE

To go into "Test mode" switch on the machine, Auto-diagnostic is displayed, within the next five seconds press the **10-11-10-11** keys in order.
A series of letters and numbers will be displayed on the next page (see **"Checking micro-switches in test mode"** table).

Anti-clockwise rotation of the geared motor
Key 1

Check the anti-clockwise rotation of the geared motor and the rise of the coffee group. Check the noise made by the geared motor.
When the geared motor is in distribution position the figure 1 should display on the top line.

Clockwise rotation of the geared motor
Key 2

Check the clockwise rotation of the geared motor and the descent of the coffee group. Check the noise made by the geared motor. When the geared motor is on standby the figure 2 should display on the top line.

Coffee grinder operation
Key 3

Check the coffee grinder rotates anti-clockwise. Check the noise made by the coffee grinder.
(keep pressing until the grinder stops automatically). If the grinder motor is running, a reference value for the number of revs. is shown (approx. 6-12) on the lower right side of the display and the figure 9 starts flashing on the top line.

Water – steam solenoid valve operation
Key 3 + 7

Check that the pump is working correctly and check the noise it makes. During water distribution check that the turbine is working correctly (the flow in litres/h is shown at the bottom right side of the display)

Water – steam solenoid valve operation
Key 2 + 7

Check that the solenoid valve is working correctly

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Pressured up pump operation
Key 1 + 7

To check that the pump is pressured up. (this is done to check for eventual leaks inside the machine)

Steam boiler electric current
Key 4 + 6

Check the electric current using an ammeter.
During the temperature rise approx. :
4.8 A (230 V);
9 A (120V);
11 A (100V)

Coffee boiler electric current
Key 2 + 6

Check the electric current using an ammeter.

Boiler temperature
Key 4 + 6 + 7

This function is used to check the current temperature of the coffee boiler

Contrast LCD Key 1 + 6 + 7

Back-light LCD Key 2 + 6 + 7

3.4 Checking micro-switches in Test Mode

Display N°	Micro-switch	Function
1	Geared motor in distribution phase switch	It sets the stopping point of the group's rise
2	Geared motor on standby switch	It sets the stopping point of the group's descent
3	Panel switch	
5	Coffee ground tray and drip tray switch	Detects the presence of the coffee grounds tray and the drip tray
6	Coffee group switch	Detects the presence of the coffee group
7	Door switch	Detects the correct shutting of the door
8	Turbine sensor	Counts the turbine impulsions in order to define the quantity of water to be used when making the coffee
9	Coffee grinder sensor	Defines the number of revolutions depending on the dose of coffee
0	Water sensor	Detects when there is insufficient water in the tank
A	Water tank safety sensor	Detects when the water tank is full
M	No Coffee	Detects when there is no more coffee in the coffee holder
R	RTC control	Detects correct function of the clock (it should blink)
K	Facade detector	Detects the presence of the facade
0-8	Coffe grinder setting	Detects the coffee grinder settings in factory control phase
*	Coffee grinder impulses	Indicates whether the value on the previous line (0-8) was saved

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3.5 Outages displayed on the screen

DISPLAYED OUTAGES	CAUSES/SOLUTIONS
GSI (water supply outage)	- Internal drip tray sensor - Power
PURGE	- Run water - Check the water tank is correctly installed
GROUP BLOCKED	- Replace upper / lower micro-switch - Power - Small geared motor
CLOSE THE PANEL	- Close the front panel - Micro-switch - Earthing of the machine disrupts the micro-switch Cut cables -
CLOSE THE DOOR	- Close the front panel - Micro-switch - TRB support unhooked - Door hinge bent - Cut cables
COFFEE GROUNDS TRAY MISSING	- Put the coffee grounds tray back - Micro-switch - Cut cables
GROUPE MISSING	- Put the group back - Micro-switch - Group flange broken - Cut cables
NOT ENOUGH COFFEE	- Add coffee - Replace PW - Replace coffee griinder sensor
DESCALE	- Descale - Replace CPU
GRINDER BLOCKED	- Replace the coffee grinder - Replace PW
FILL WATER TANK	- Jammed floater - Replace water sensor - Replace PW
FLASHING DISPLAY	- Replace CPU - Replace PW - Crushed cables
WAIT (does not heat) heat LEDs off	- Reinitialise the thermostats - Boiler cable disconnected - Replace PW
PART OF THE DISPLAY MISSING OR DISTORTED	- Replace the display - Replace CPU
NO STEAM	- Replace steam boiler - Replace PW

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3.6 Checking micro-switches and sensors

N°	Description	Activated	Deactivated	Notes
1	Geared motor micro-switch WORK	Distributor in WORK position	Distributor not in WORK position	
2	Geared motor micro-switch HOME	Distributor in HOME position	Distributor not in HOME position	
3	Front command strip micro-switch	Command strip closed	Command strip open	
5	COFFEE GROUNDS TRAY micro-switch	Tray present	Tray absent	
6	DISTRIBUTION GROUP micro-switch	Present	Absent	
7	DOOR Micro-switch	Door closed	Door open	
8	FLOW METER			The technician can check the impulses
9	COFFEE GRINDER IMPULSES			The technician can check the impulses
0	WATER LEVEL in the tank	Level is OK	Level is LOW	
A	WATER ALARM micro-switch	Water detected in the bottom of the machine	No water detected in the bottom of the machine.	
M	Coffee holder empty	There is no coffee	There should be coffee.	This is derived and not hardware data.
R	CLOCK (shows seconds)	Even seconds	Odd seconds	It should flash at 1 HZ
K	FRONT FACE PRESENT	Present	Absent	
0-8	COFFEE GRINDER SETTINGS			Factory settings
*	COFFEE GRINDER SETTINGS SAVED	Not saved	Saved	

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CHAPTER 4
DIAGRAMS

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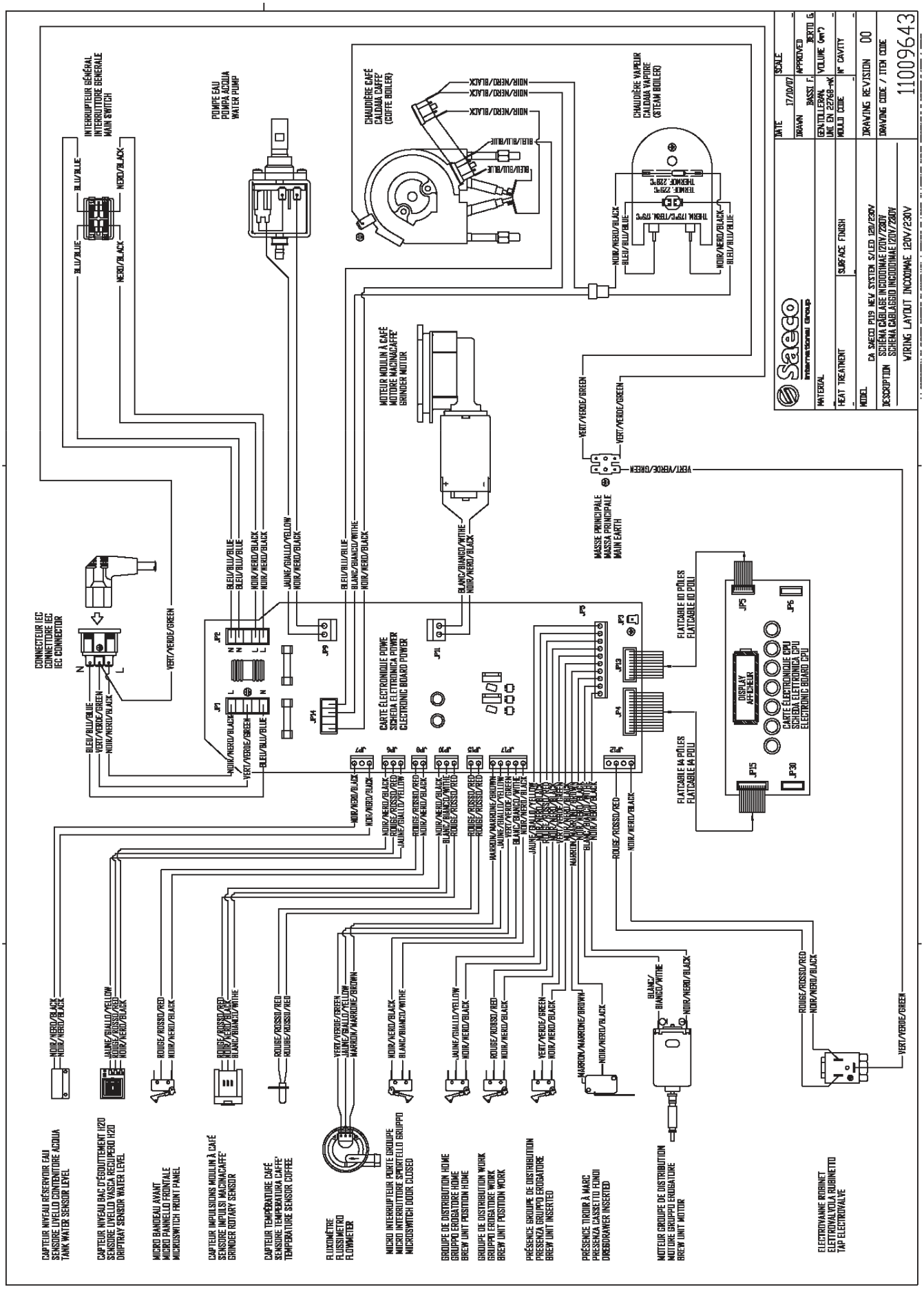
4.1 Cabling diagram



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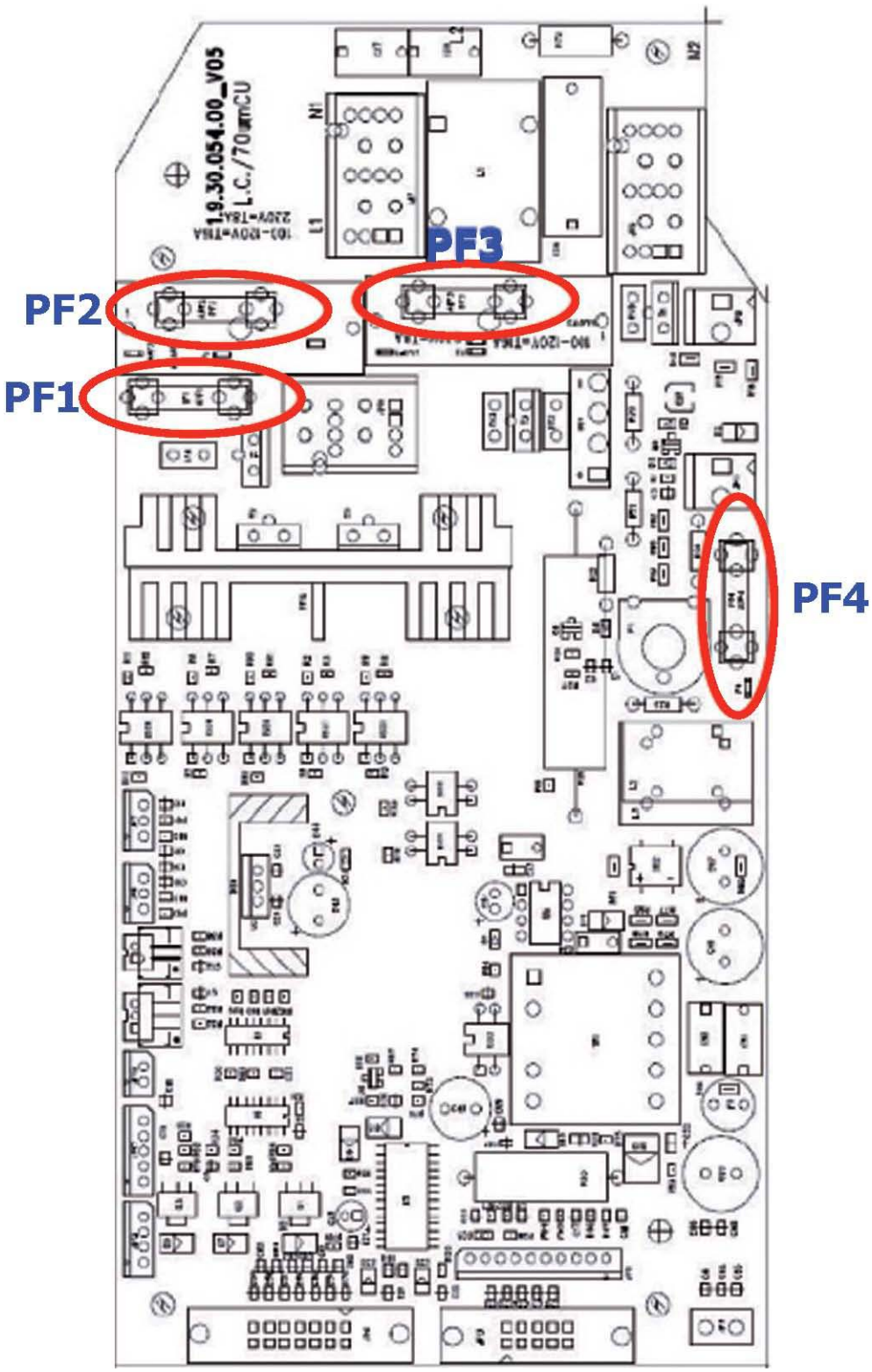
Fuses



FUSE	120 V	230V	DESCRIPTION
PF1	02A/250V	01A/250V	Coffee grinder safety
PF2	16A/125V	08A/250V	Coffee boiler, grinder, main circuit and pump safety
PF3	16A/125V	08A/250V	Steam boiler safety
PF4	02A/250V	02A/250V	Main circuit safety

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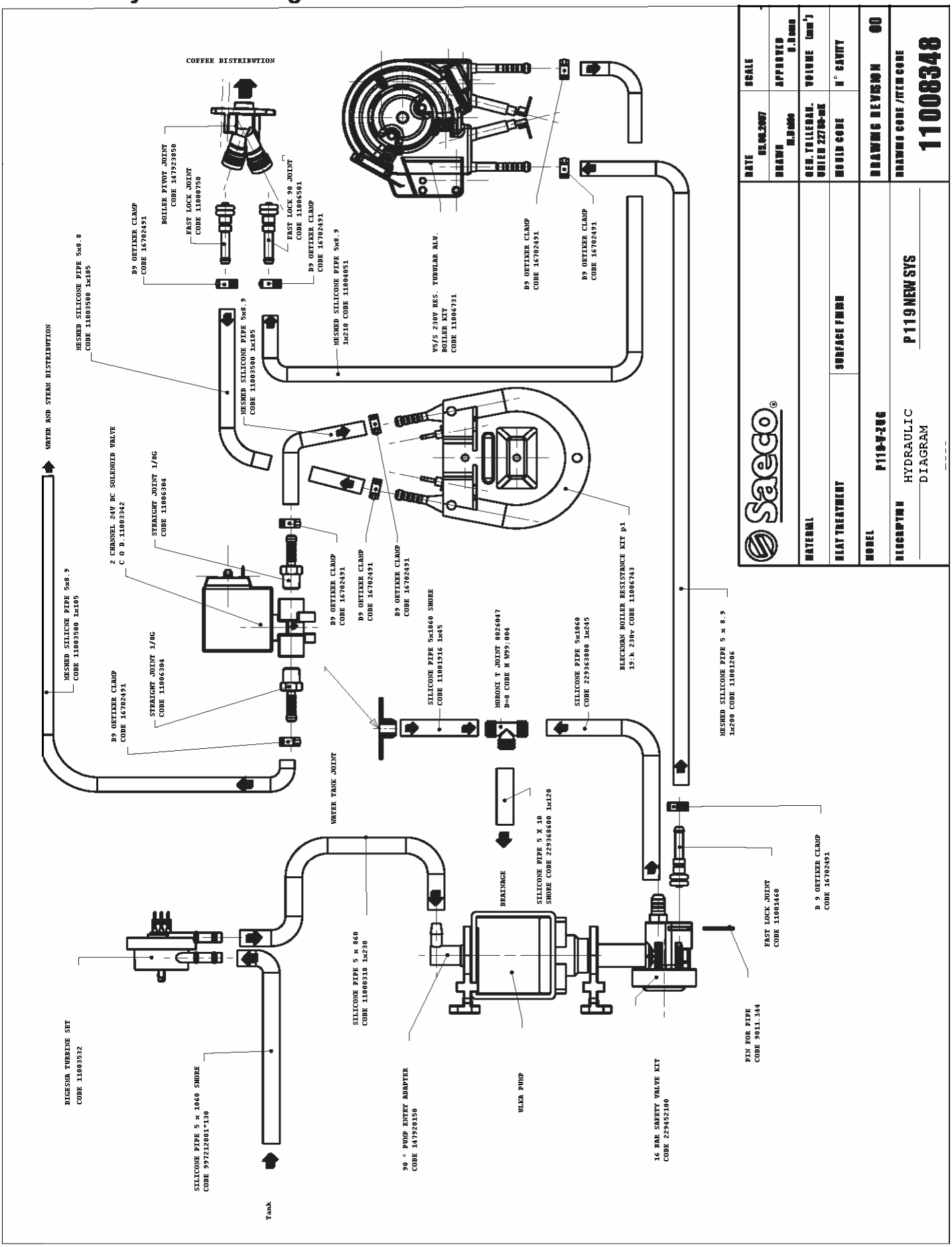
4.2 Hydraulics diagram


COFFEE DISTRIBUTION
WATER AND STEAM DISTRIBUTION
BOILER PIVOT JOINT CODE 147923850
FAST LOCK JOINT CODE 11000750
FAST LOCK 90 JOINT CODE 11006501
D9 OETIKER CLAMP CODE 16702491
MESHED SILICONE PIPE 5x8.8 CODE 11003500 1x105
MESHED SILICONE PIPE 5x8.9 CODE 11003500 1x105
MESHED SILICONE PIPE 5x8.9 1x210 CODE 11004051
V5/S 230V RES. TUBULAR ELM. BOILER KIT CODE 11006731
2 CHANNEL 24V DC SOLENOID VALVE C O D 11003342
STRAIGHT JOINT 1/8G CODE 11006304
SILICONE PIPE 5x1060 SHORE CODE 11001916 1x45
HORNI T JOINT 8026047 D=8 CODE M V99.004
SILICONE PIPE 5x1060 CODE 22936800 1x245
BLECKMAN BOILER RESISTANCE KIT p1 19-k 230v CODE 11006743
MESHED SILICONE PIPE 5 x 8.9 1x200 CODE 11001206
WATER TANK JOINT
DRAINAGE
SILICONE PIPE 5 X 10 SHORE CODE 229368600 1x120
SILICONE PIPE 5 x 860 CODE 11000310 1x230
FAST LOCK JOINT CODE 11001460
PIN FOR PIPE CODE 9011.144
DIGESTA TURBINE SET CODE 11003532
SILICONE PIPE 5 x 1060 SHORE CODE 997212001*130
90 ° PUMP ENTRY ADAPTER CODE 147920150
ULKA PUMP
16 BAR SAFETY VALVE KIT CODE 229452100
Tank
Saeco
DESCRIPTION HYDRAULIC DIAGRAM
MODEL P119-T-SUG
P119 NEW SYS
MATERIAL
HEAT TREATMENT
SURFACE FINISH
DRAWING REVISION 00
DRAWING CODE /ITEM CODE 11008348

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CHAPTER 5
OPERATING LOGIC

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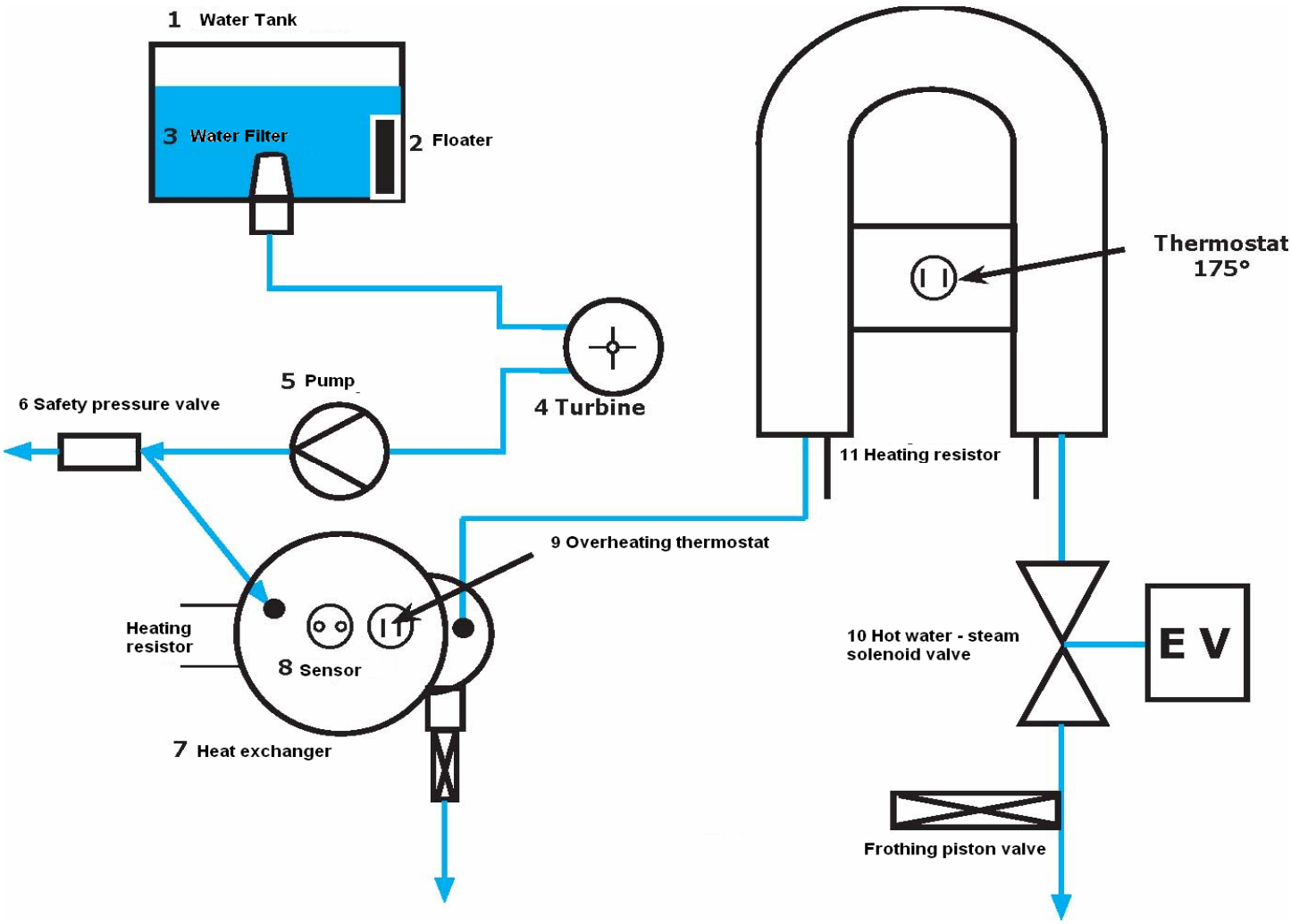
5.1 Hydraulics operating diagram



n°	Component	Function
1	Water tank	Water supply
2	Floater	Water shortage detection
3	Water filter	Elimination of solid matter from the water
4	Turbine	Measures flow per impulse, sets quantities
5	Pump	Water flow / pressure (15 bar)
6	Pressure safety valve	Protects the circuit from over pressuring (opens at 17-19 bars)
7	Heat exchanger / heater	Heats for water, coffee, steam distribution.
8	Temperature sensor	Transmits current temperatures to the electronics
9	Overheating thermostat	Switches off the machine in the event of overheating
10	Hot water – steam tap	When open supplies hot water or steam
11	Tube boiler	For steam distribution
12	Frother nozzle valve	Opens if the nozzle obstructs

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5.2 The SBS system

Distribution Process

The SBS distribution system (see figure 2) can be set using a button and is used to change (by increase or decrease depending on the position of the button) the flow of water into the group for percolation. Thus the percolation time can be varied (extraction time) and, consequently, the intensity of the flavour, while keeping the coffee smooth.

Function

When the SBS valve is open coffee accumulates inside the membrane valve due to a weak counter pressure from the SBS valve. The valve needle thus remains in its maximum open position due to the resistance of the spring. The coffee flows quickly (see figure 3). When the SBS valve is closed, coffee accumulates on the valve membrane and increases the pressure inside the valve. The spring releases due to the counter pressure and the valve needle reduces the flow of coffee (see figure 4).

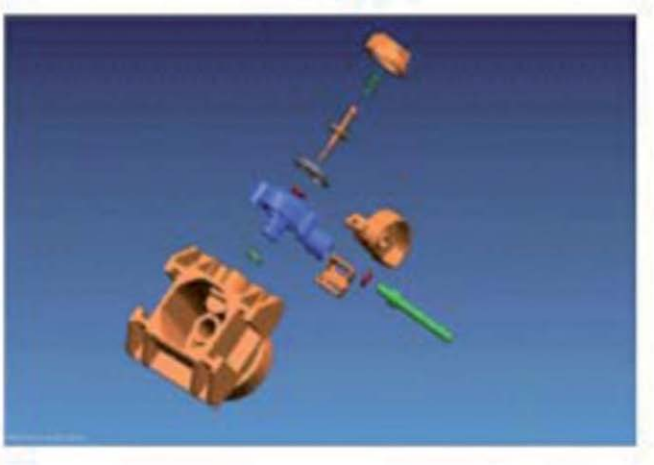

Fig 1

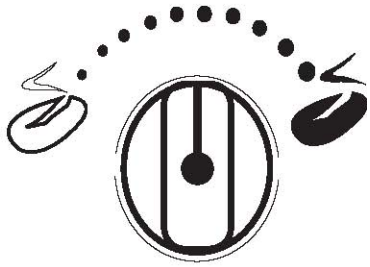

Fig.2

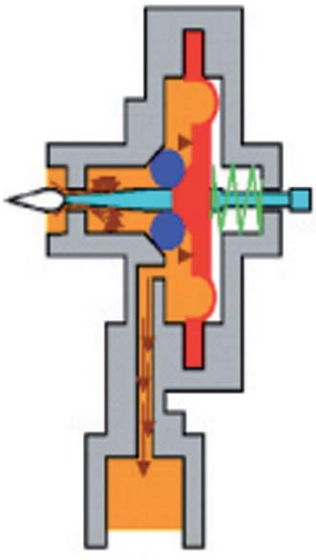

Fig.3

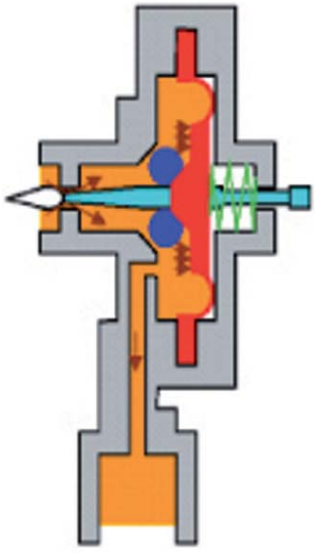

Fig.4

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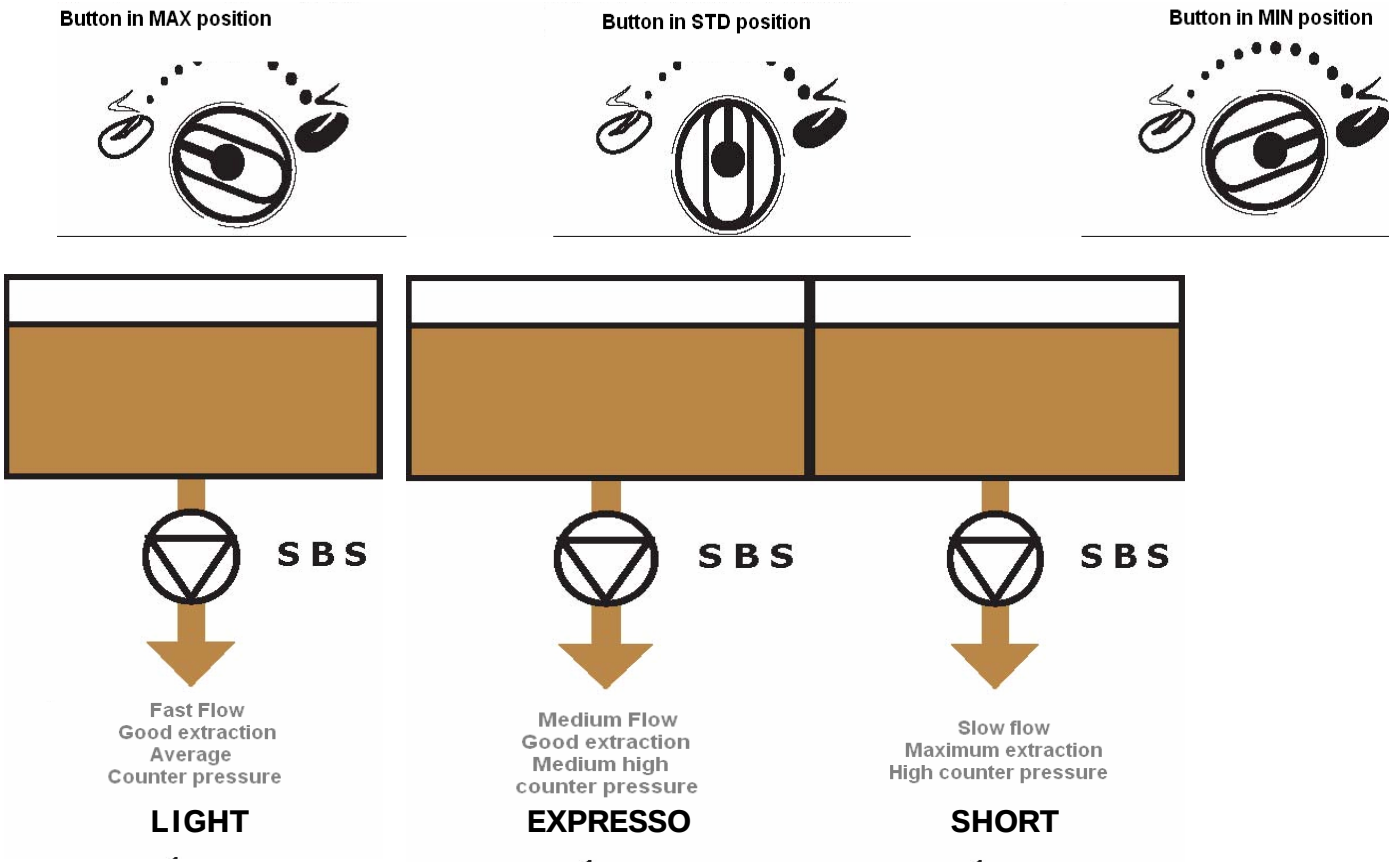
Checking SBS valve operation

To check that the SBS valve is working correctly, make a large coffee. While the coffee is preparing check the difference in distribution speed between the maximum position and the minimum position.
The difference in speed is 2.5 times faster (therefore the difference is VERY obvious !!).



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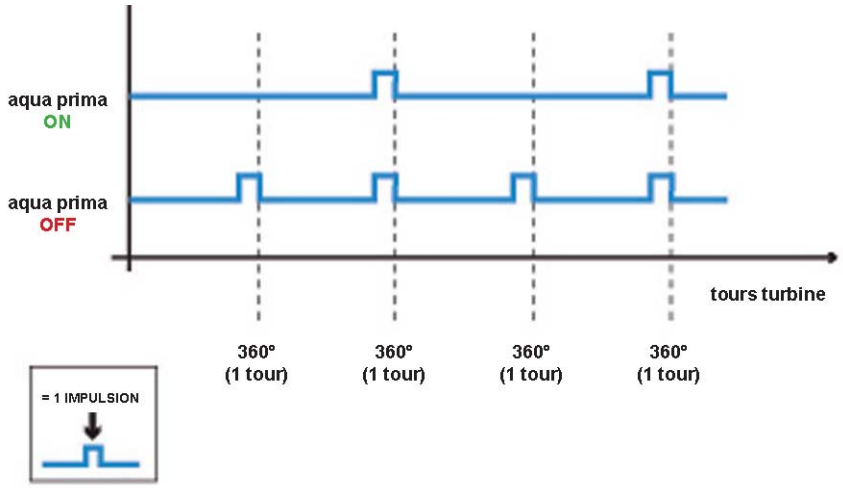
5.3 Aqua Prima

Operating logic with “AQUA PRIMA” filter

If the use of the “aqua prima” filter is selected from the user menu or the command strip, the system’s water measuring logic becomes the following :
If the “aqua prima” function is **active** the electronics will count **one turbine impulse every two revolutions.**
If the “aqua prima” function is **inactive** the electronics will count turbine impulses **one impulse per revolution.** A graph showing this function is shown below:



DESCALING			
Hardness	**Water hardness**	**Descaling frequency**	**Descaling frequency when using Aqua Prima**
1	Soft water (jusqu’à 7°dH)	Approx. 3 months 120 litres	Approx. 3 months 240 litres
2	Standard water (7°-14°dH)	Approx. 2 months 90 litres	Approx. 2 months 180 litres
3	Hard water (15°-21°dH)	Approx. 6 weeks 60 litres	Approx. 6 weeks 120 litres
4	Hard water (15°-21°dH)	Approx. 4 weeks 30 litres	Approx. 4 weeks 60 litres

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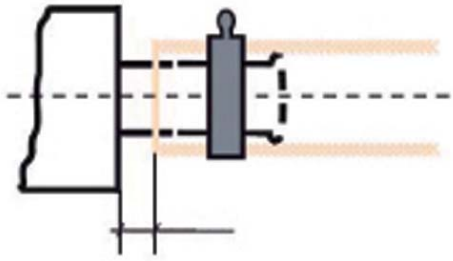
5.4 Fitting and removing OETIKER clamps

Fitting the clamp on the boiler

1 BOILER



The figure (1) shows where the clamp should be mounted on the boiler joint.

To tighten the clamp use the appropriate pliers. Make sure it is sufficiently tight (A) and that it is in the right place (1)

To remove the clamp proceed as illustrated (B)

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CHAPTER 6 FITTING AND REMOVING COMPONENTS

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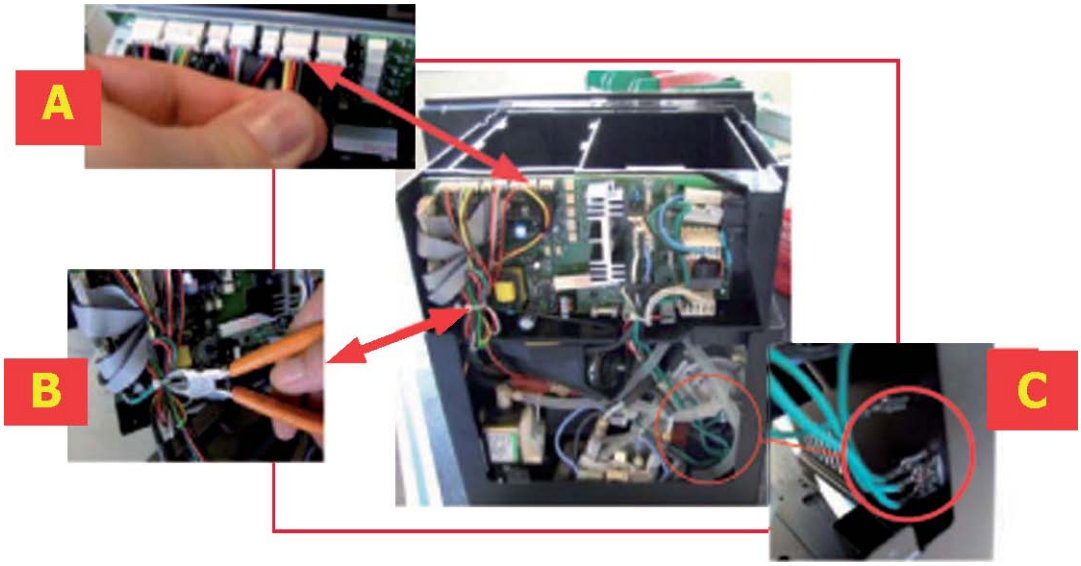
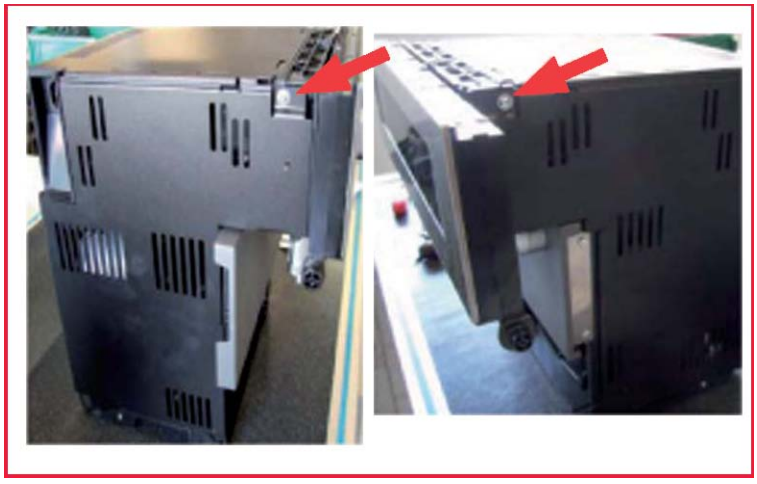
6.1 Removing the upper panel and component support frame

Remove the screws indicated at the rear of the machine

Remove the upper panel as illustrated



Cut the “B” clamp, remove the “A” connector and the “C” terminal connectors



Remove the indicated screws on the LEFT and RIGHT sides

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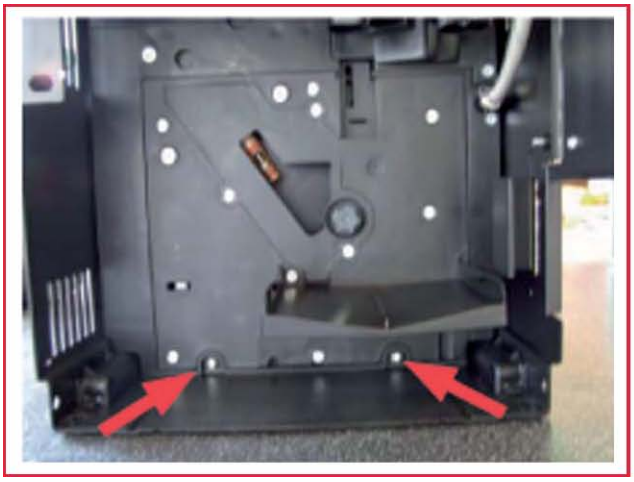
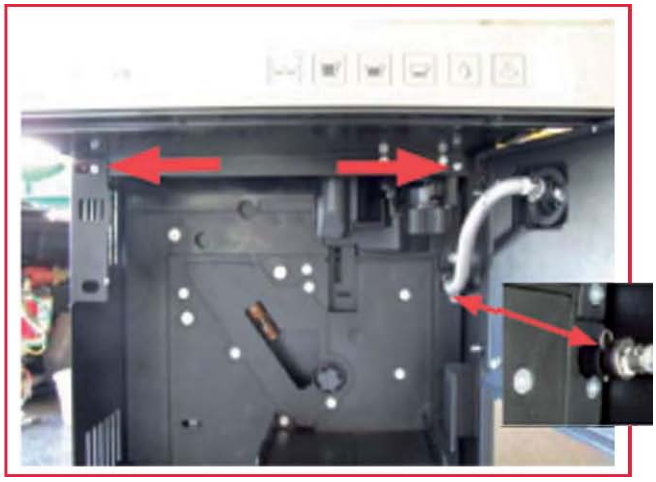
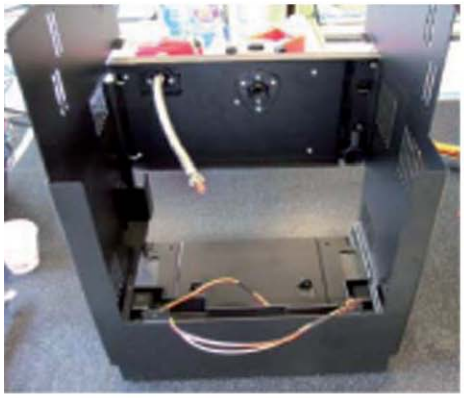


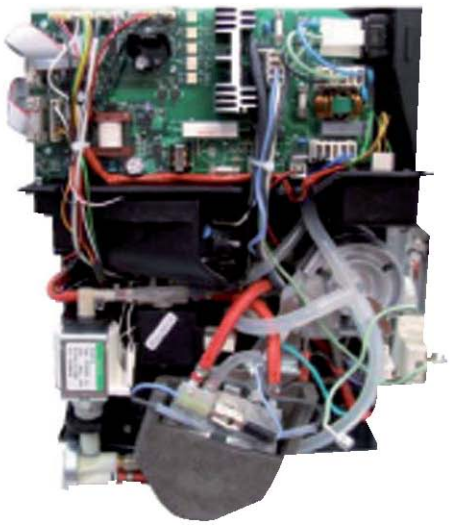


Remove the screws shown on the front area and detach the steam pipe by removing the indicated clip

Lift the component support frame



Chassis



Board

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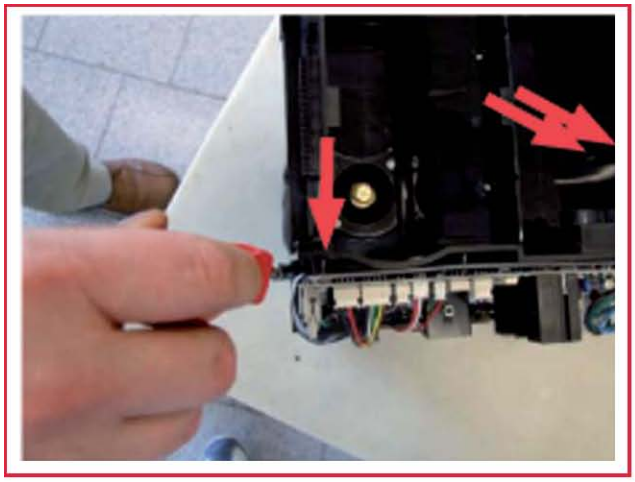
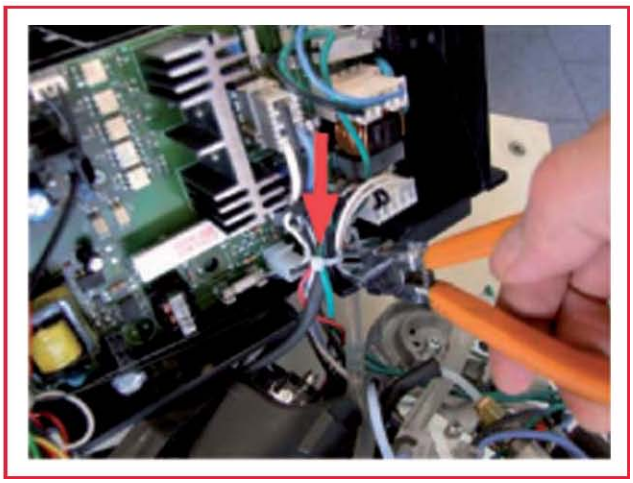
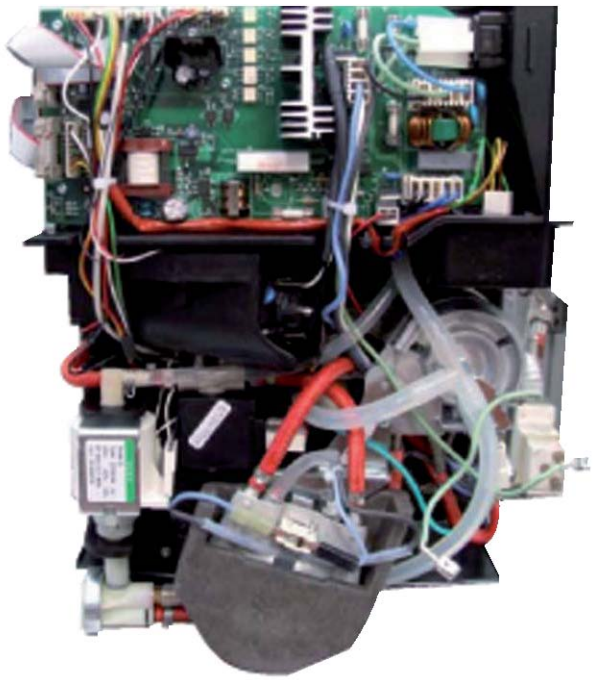
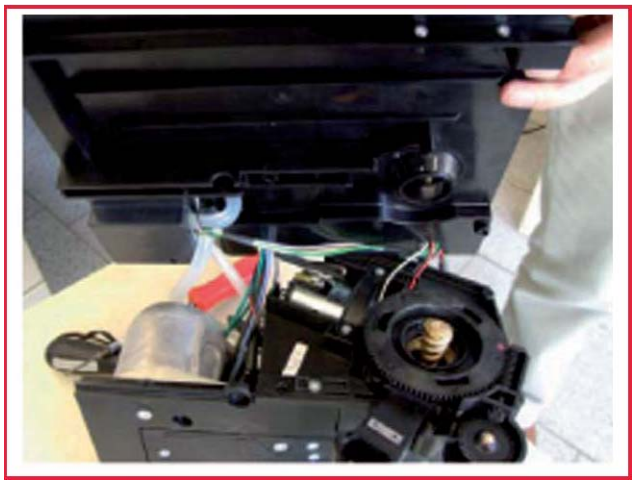


Remove the indicated screws



Cut the clamp





Remove the cabling and then the upper board by lifting it

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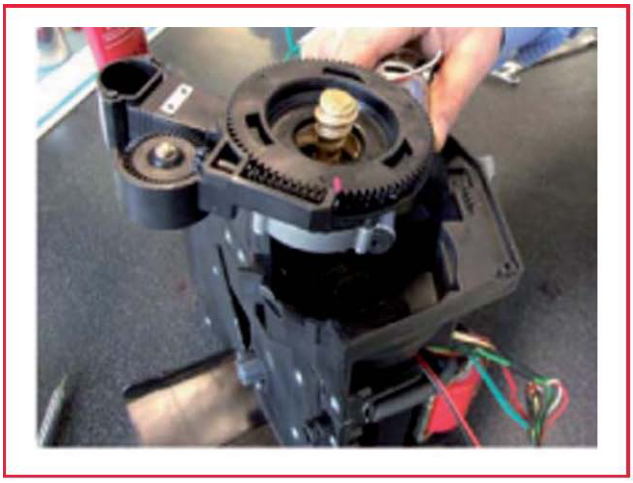
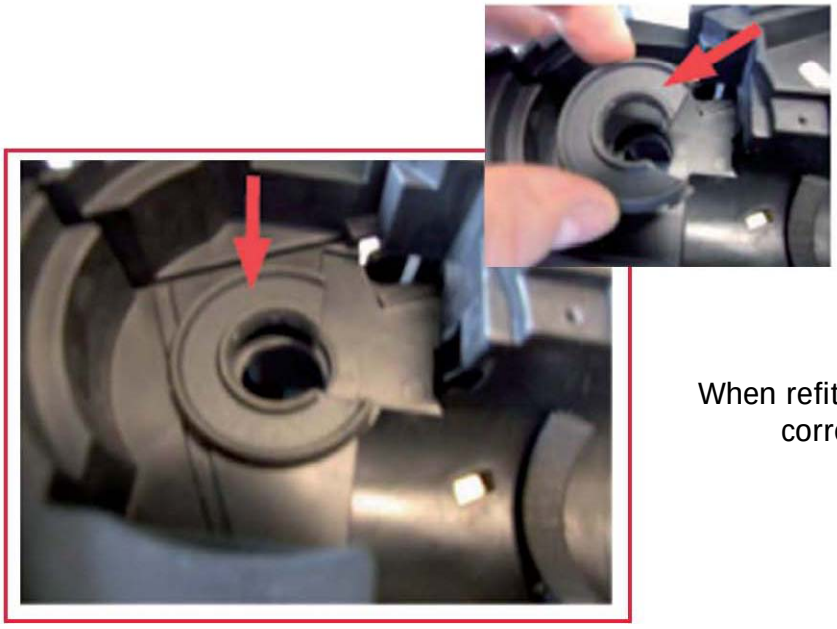
6.2 Removing the coffee grinder

Remove the screws indicated by an arrow (Note. when refitting the coffee grinder do not forget the two “2” that go around the motor “3”)



Remove the coffee grinder



When refitting the coffee grinder take care to correctly place the indicated joint

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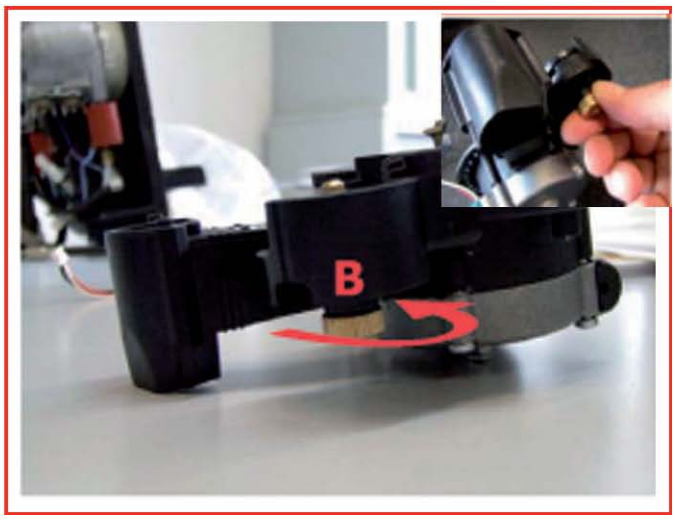
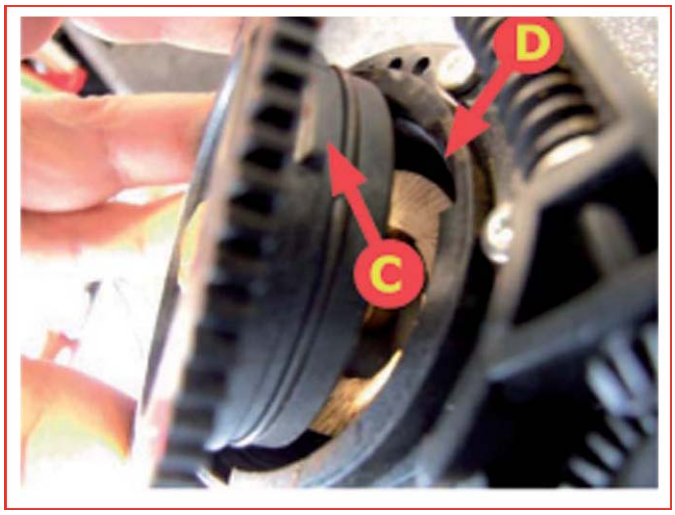
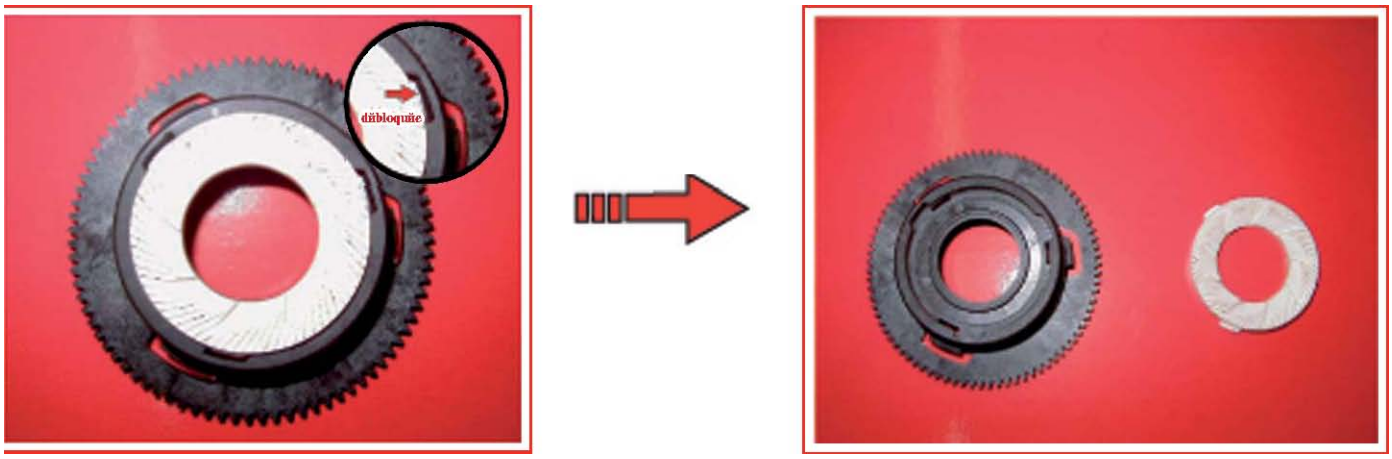
6.3 Removing the grinding wheels





To remove the upper grinding wheel “A” (Unpack) turn it anti-clockwise as shown in the first picture using the “B” ring until the “C” tool is opposite the “D” aperture.



(removing the upper grinding wheel)

Once freed, the grinding wheel can be removed from its support.

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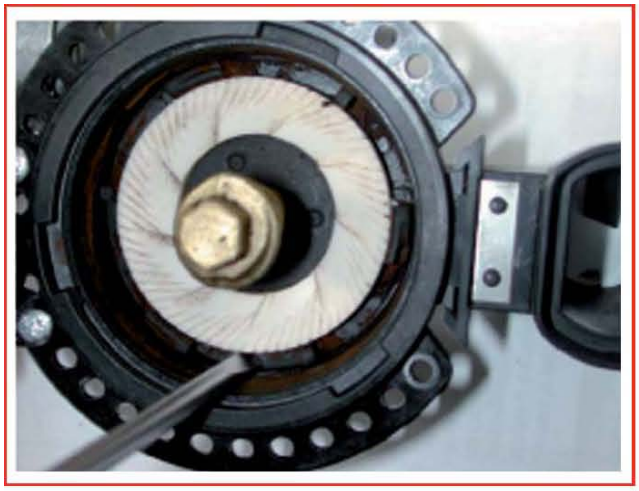
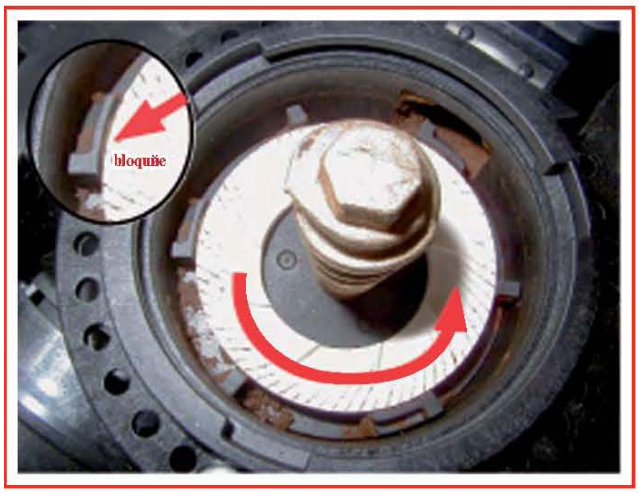
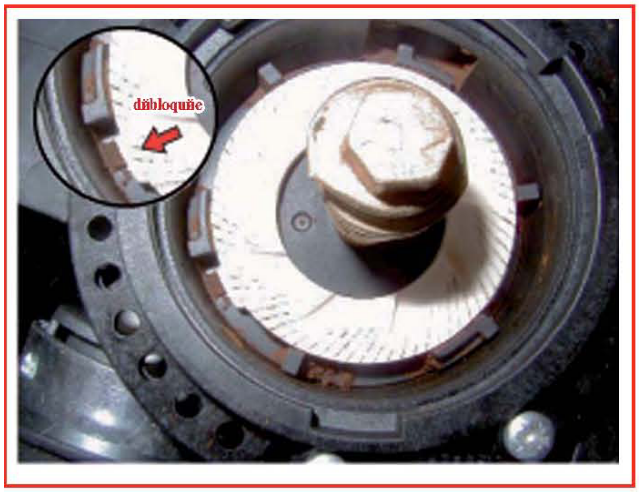


(removing the lower grinding wheel)

Clean out all coffee residue using a small flat screwdriver, compressed air or a vacuum cleaner.

Turn the grinding wheel anti-clockwise while levering it using a small flat screwdriver as shown in the first picture.





Once freed, the lower grinding wheel can be removed from its support.

The upper and lower grinding wheels are made from ceramic and are completely identical.

Note :
to refit them proceed in the opposite order

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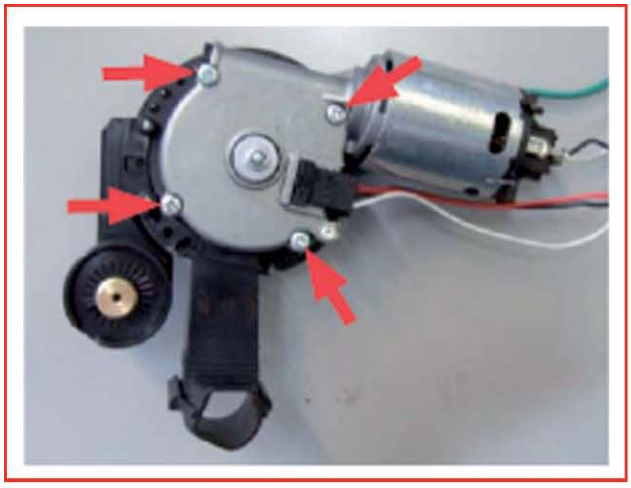
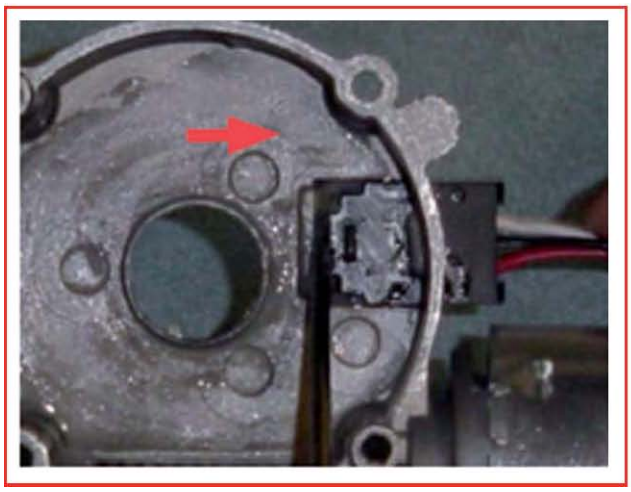
6.4 Removing the coffee grinder motor

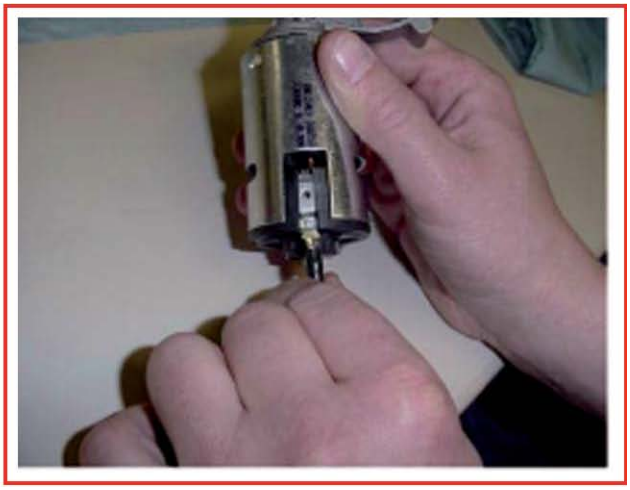


Remove the screws of the grinder motor side-plate.

Remove the sensor from the side-plate by pressing on the anchor tab.



Remove the sensor from its casing in the side plate using a small screwdriver (as shown above)



Disconnect the motor power cables.

Remove the rubber cap from the motor side-plate.

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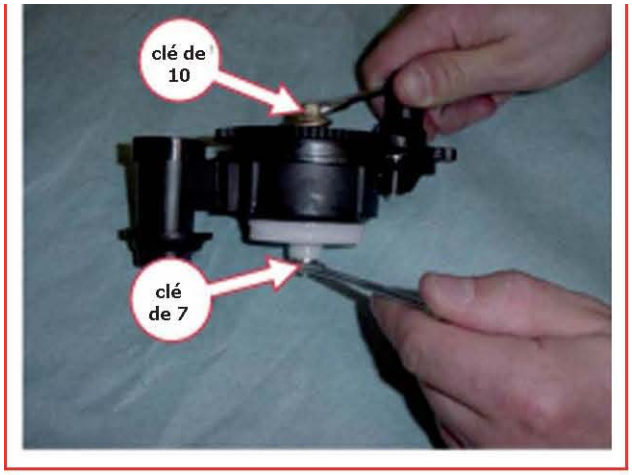

If the crown is damaged, remove the cog wheel using a size 10 and a size 7 spanner to unscrew the fixing nut.

Fit the new crown by placing it on the spindle gear and fix it by fitting the washer and fixing nut.

Block the nut on the brass spindle axis using the size 7 and 10 spanners.

Grease the entire crown.

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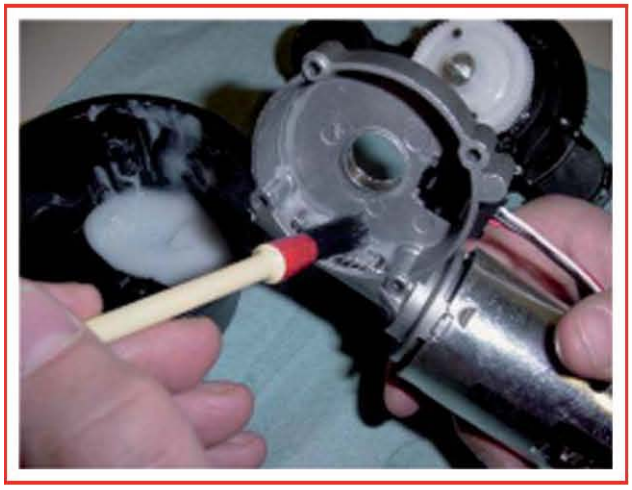
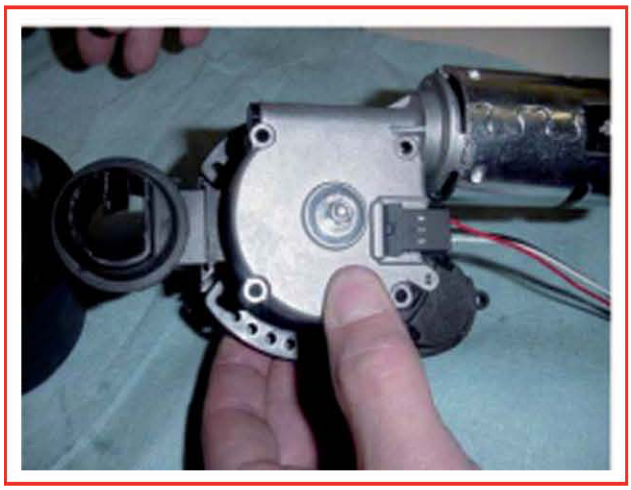
Evenly spread grease on the entire surface of the cog wheel.



Apply grease to the teeth of the endless screw on the grinder motor shaft.



Fit the motor side-plate as illustrated.

Fit the fixing pins as illustrated and push them right into their housing.

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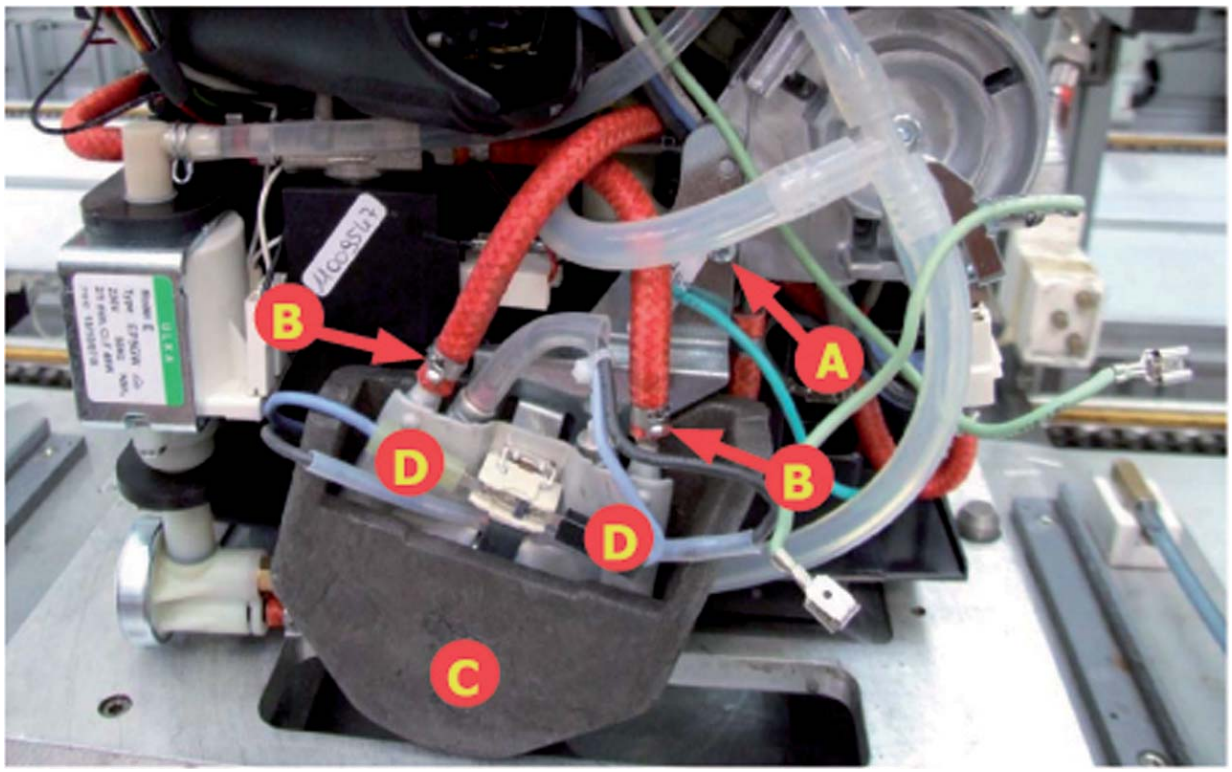
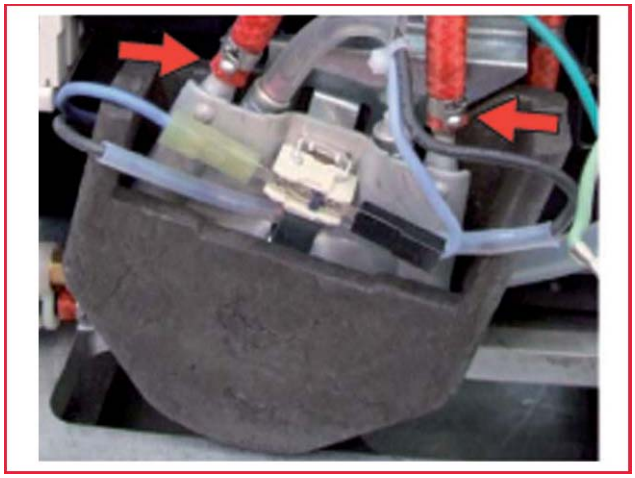
6.5 Removing the boilers

Steam boiler



Remove screw “A” and the two “B” clamps, remove the two silicone meshed pipes. Remove the resistance protection cover “C” and disconnect the two “D” connectors.



To remove the steam boiler, cut the two clamps and disconnect the two silicone pipes

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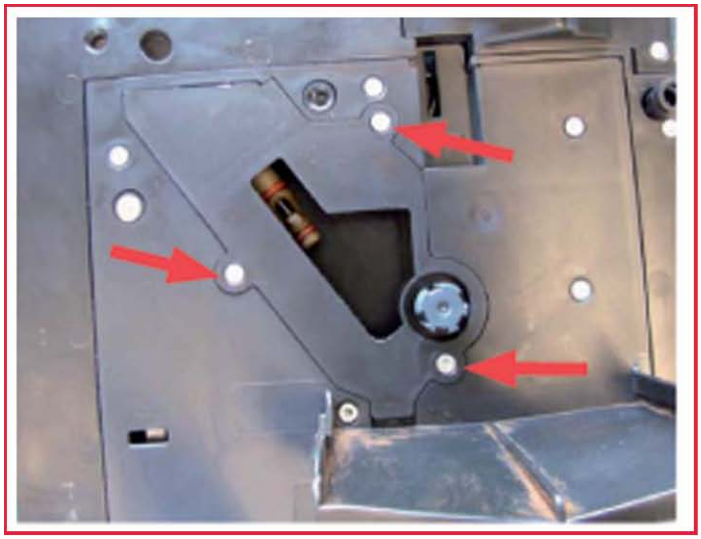
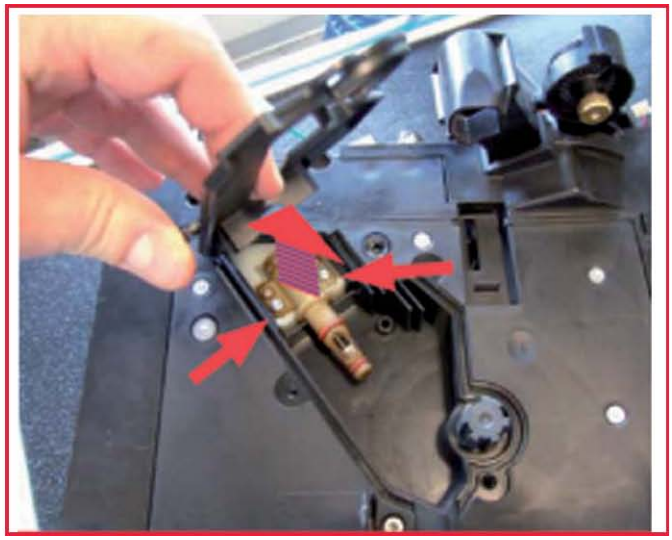
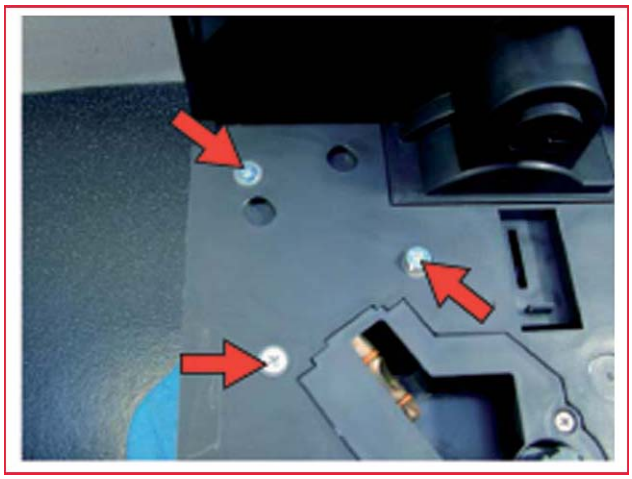
Coffee boiler



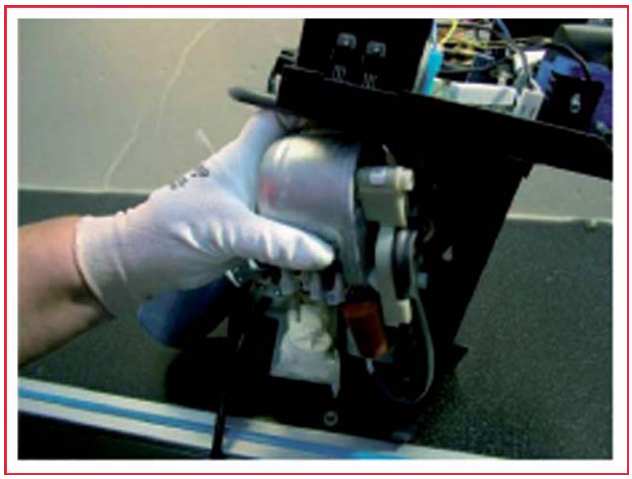
Remove the screw as shown



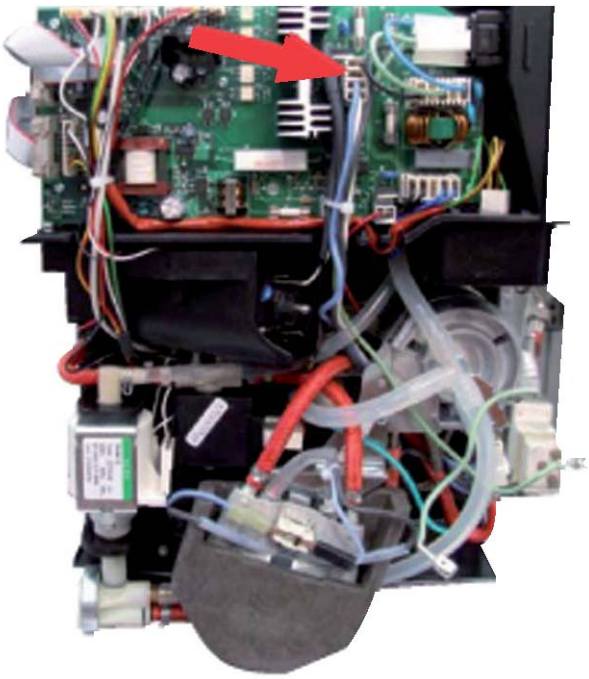
Remove the small cover and the indicated screws to free the boiler pivot



To remove the coffee boiler remove the three screws as shown above.



Remove the boiler from its casing.



Disconnect the connector shown by the arrow

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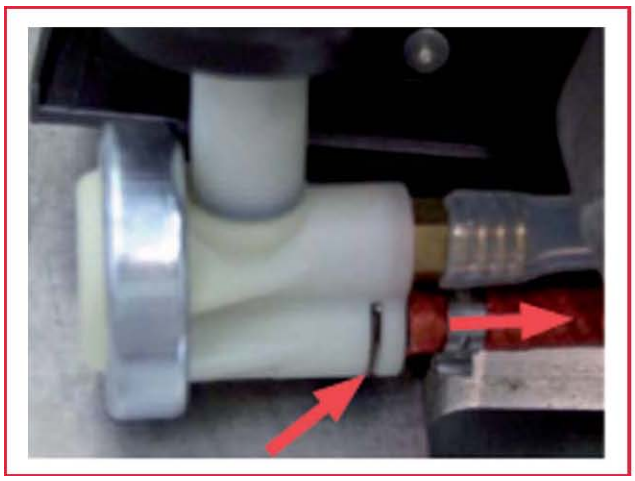
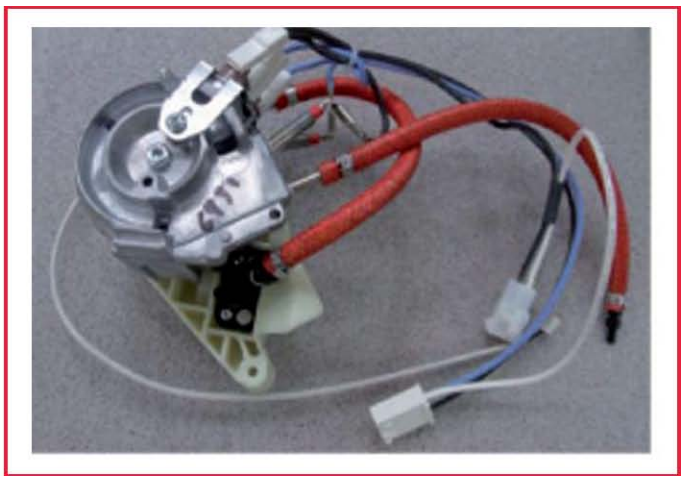
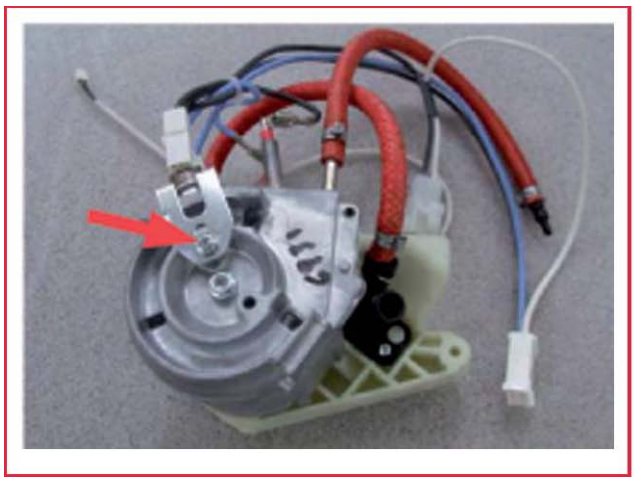


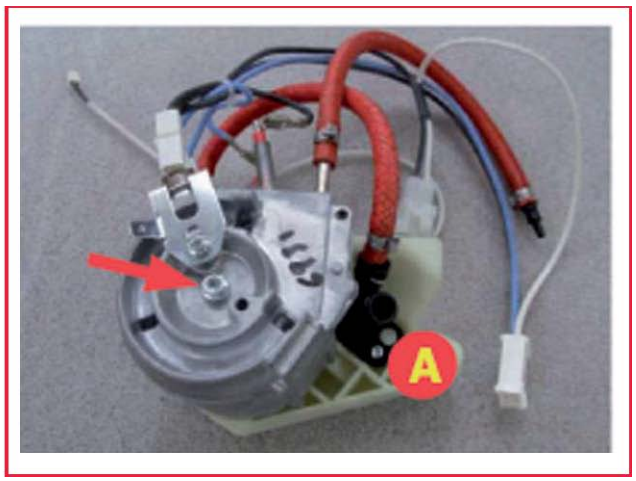
Remove the fixing pin and disconnect the teflon pipe that connects the pump to the boiler by removing the clamp



This picture shows the coffee boiler once removed from the casing.



To replace the thermostats, remove the indicated screw (this can also be done while the boiler is still in its casing)



To remove the boiler from its base unscrew the indicated screw (A)

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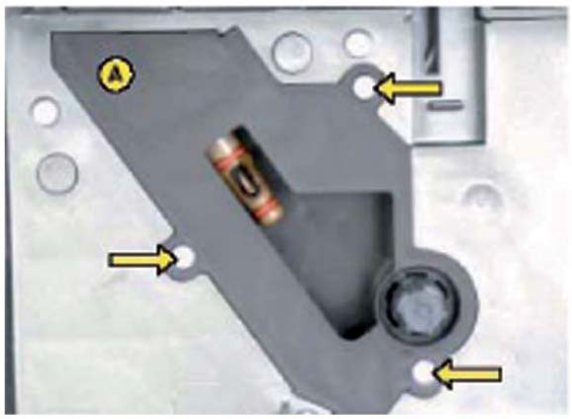
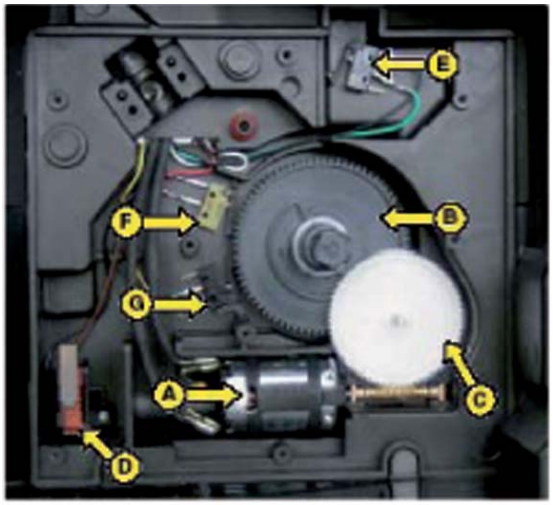
6.6 Replacing the geared motor



Remove the casing (A) by removing the three screws.

Remove the two screws and the boiler pivot (B)

Remove the protection cover (C) by removing the screws.



Inside the area protected by the casing are :

- the electric motor (A) with the transmission and synchronisation gears (B) and (C) for the distribution group;
- the coffee grounds tray micro-switch (D);
- the distribution group micro-switch (E);
- the distribution group standby detection micro-switch (F);
- the distribution group, distribution detection micro-switch (G);

Remove the gear (C) that is coupled to the shaft of the small motor. Remove the larger gear (B). Pull out the small motor (A) and its transmission shaft (H).

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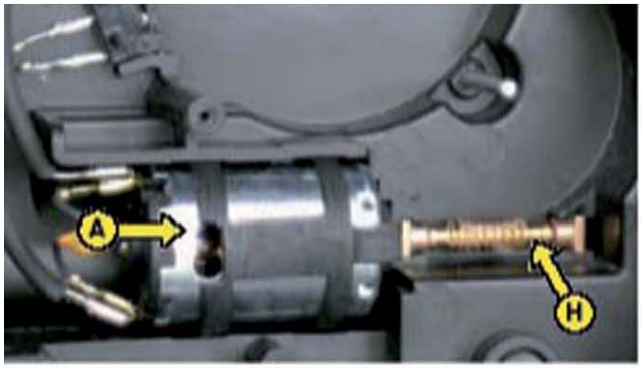
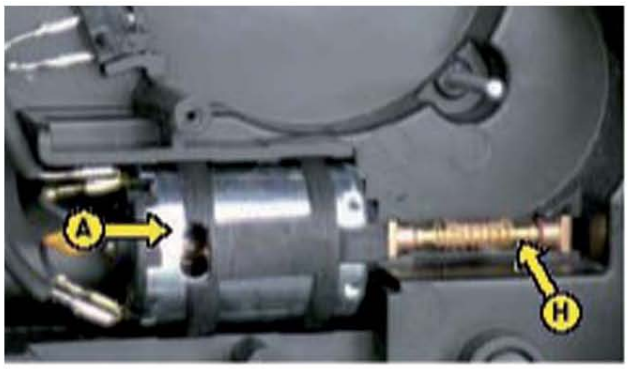
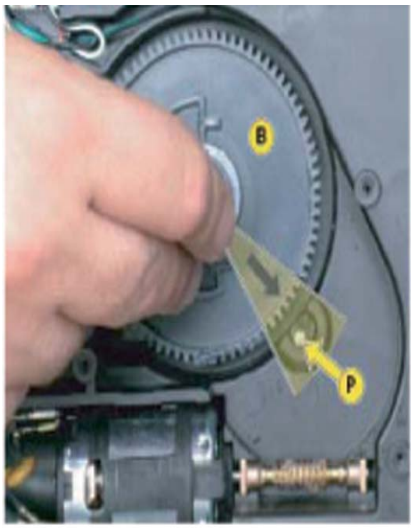




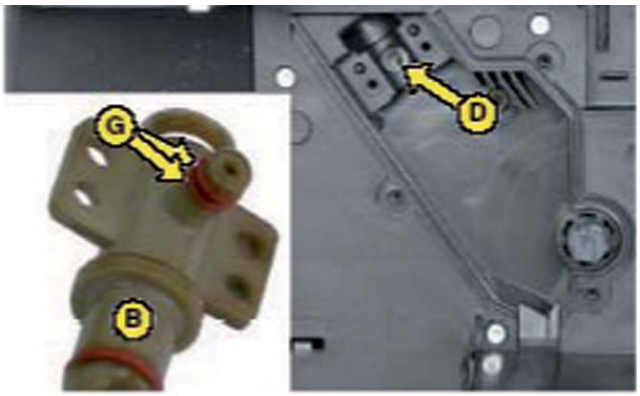
Fit the small motor and transmission shaft by placing the parts in their casing (L)



Fit the gear (B), while making sure that the printed arrow is included in the opening that contains the pivot (P).

Fit the gear that couples with the transmission shaft.

Refit the protection cover (C) and replace the screws



Refit the boiler pivot (B) while making sure that the two joints (G) are present on the beak that fits in the pipe hole (D).

Replace the boiler pivot screws.
Warning : before tightening the screws they must both be fully screwed

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CHAPTER 7
EXPLODED VIEWS

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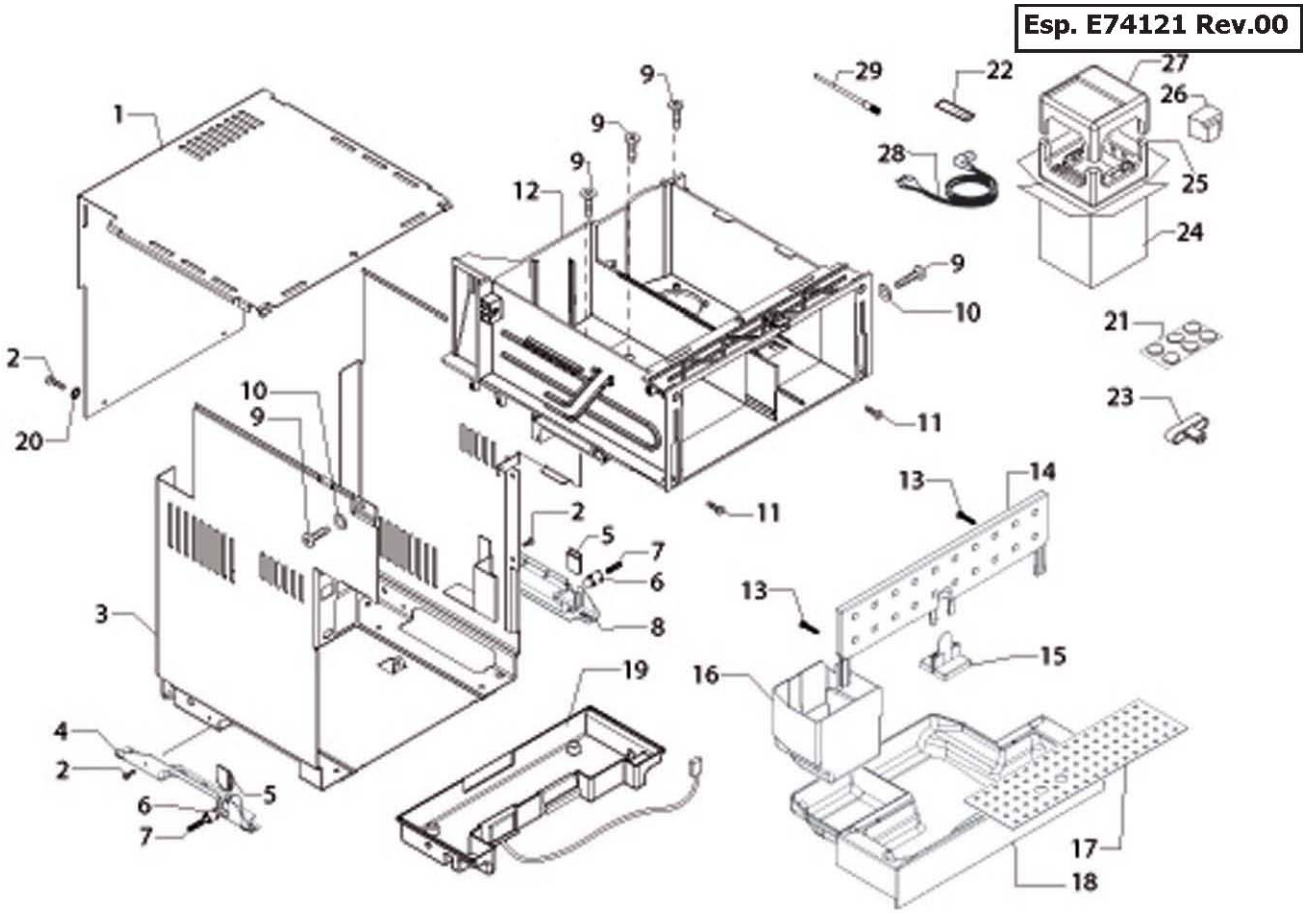
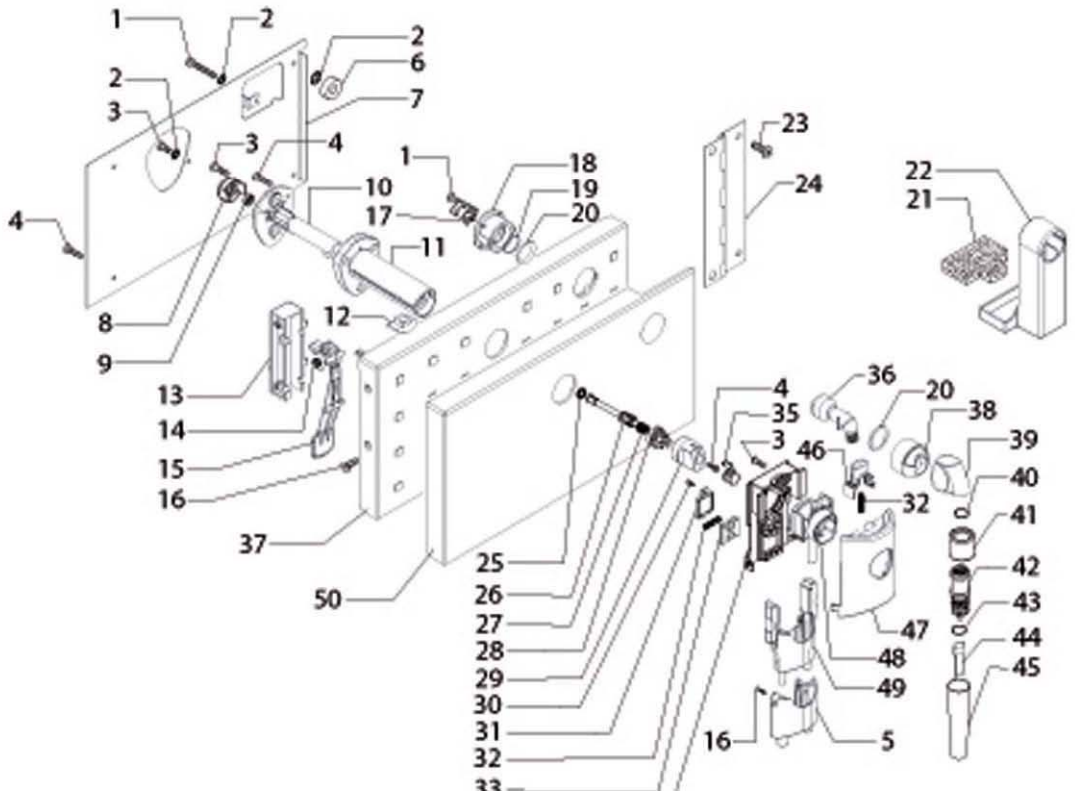
7.1 Exploded view





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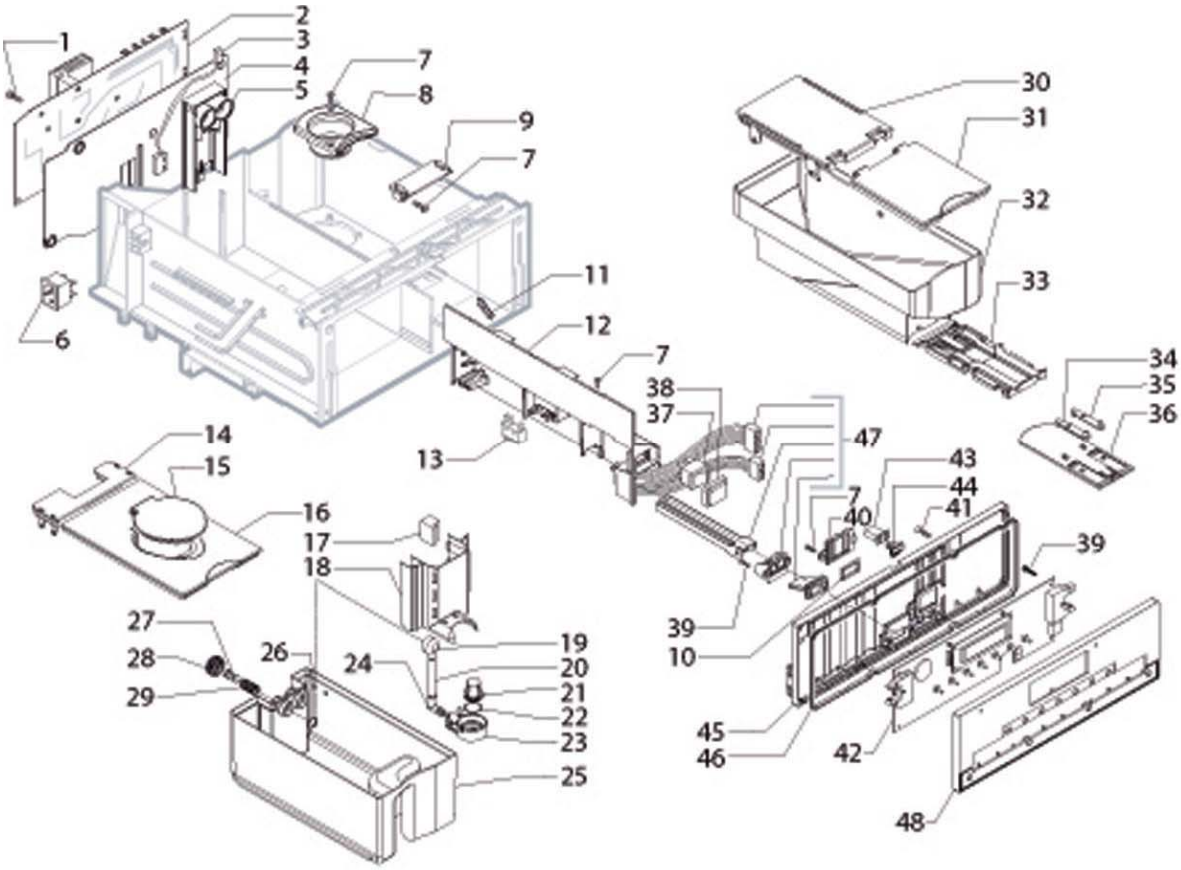

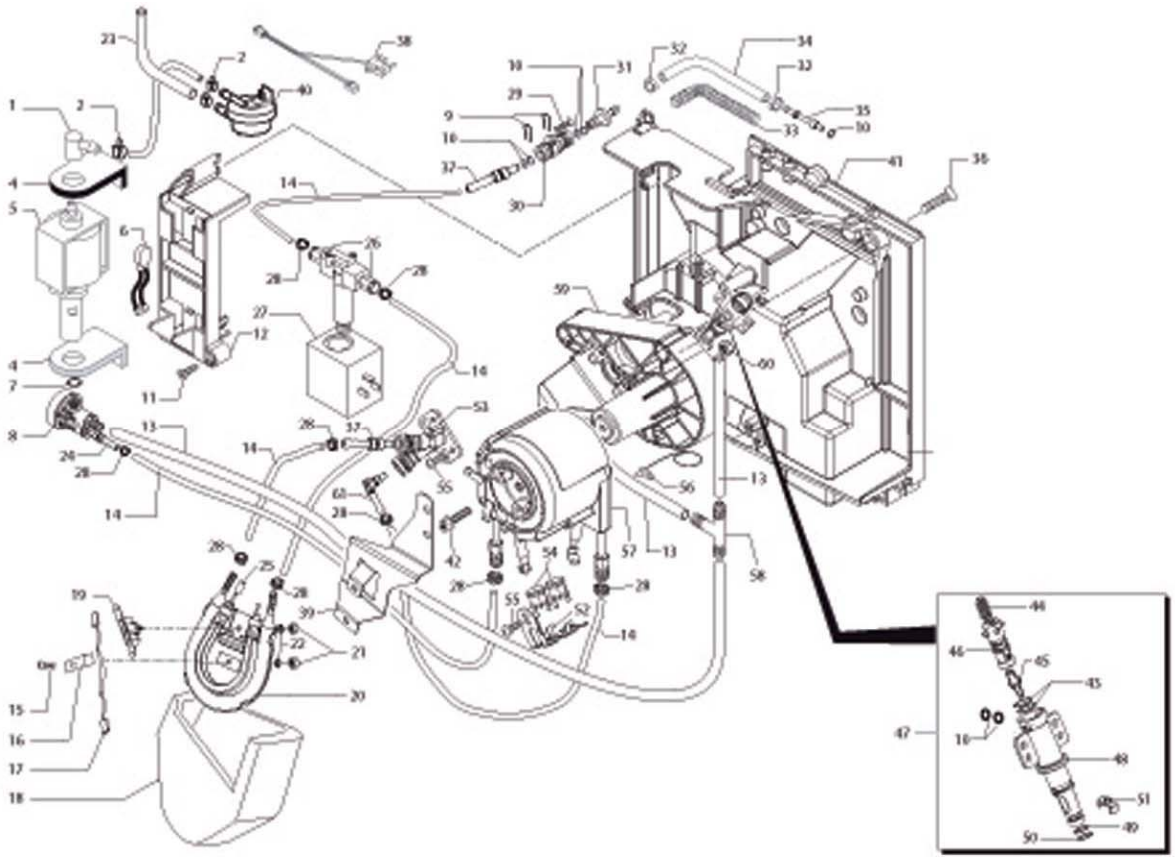

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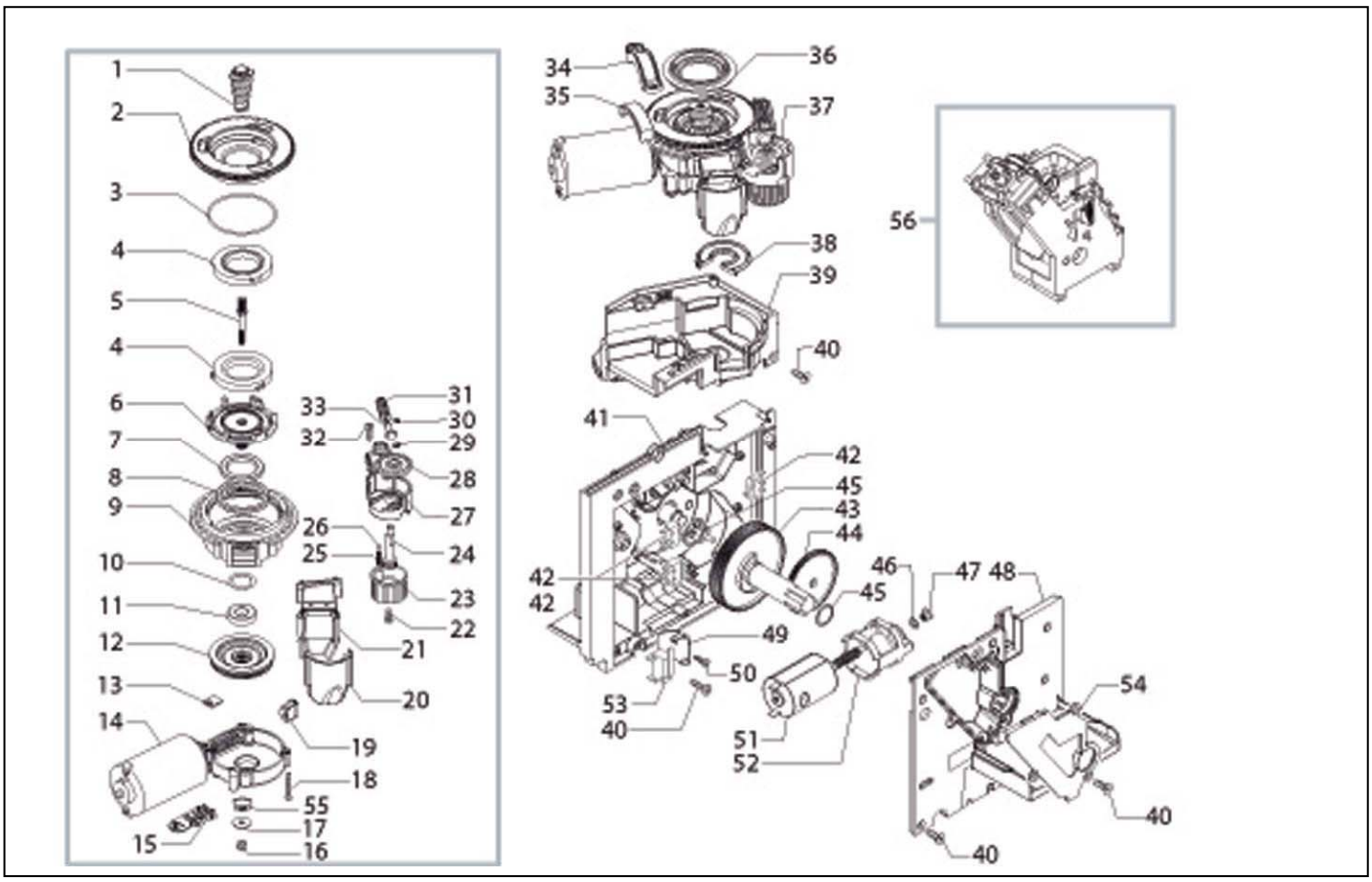
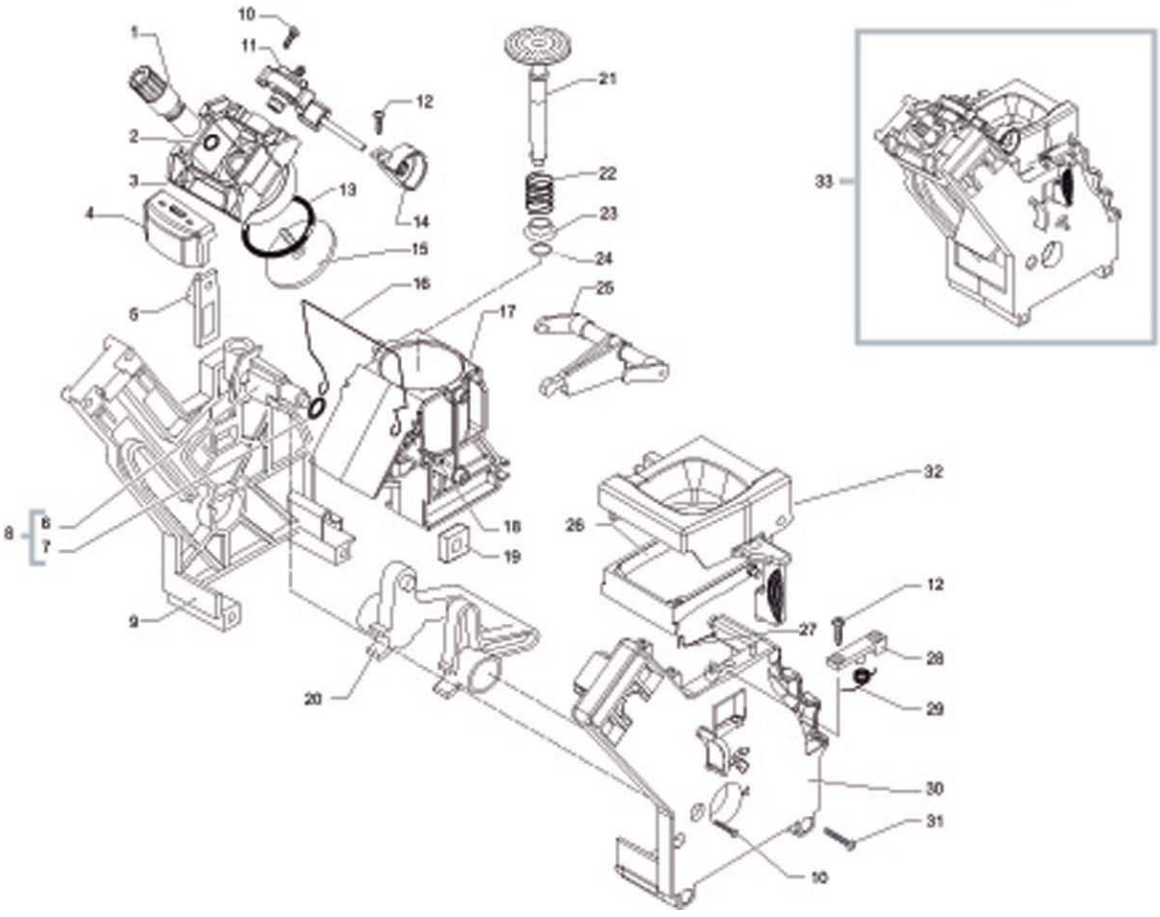


Esp. E90046



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7.2 List of recommended spare parts (Always use the latest version of the exploded view)

N° Planche	Pos.	Code	Description	Qty in %
2/5	05	227370303	Distributor moving part	3
2/5	09	145853260	Gaco Joint	10
2/5	10	149501550	Distribution pipe	3
2/5	11	229186103	Distributor support	3
2/5	12	145854962	Joint	5
2/5	13	149206750	Push button mount	3
2/5	14	126839418	Push button spring	3
2/5	15	147895450	Push button for the door	3
2/5	19	140329162	OR 117	10
2/5	25	140326661	OR metric 0040-20	10
2/5	40	140324461	OR metric 0060-20	10
2/5	43	140320762	OR 108	10
3/5	02	11004398	Power Card	3
3/5	03	11001170	2 pole connecting set	3
3/5	19	147923662	Connection for water valve	3
3/5	20	229434700	Teflon pipe	3
3/5	21	224640200	Filter set	5
3/5	24	147923762	Adapter	3
3/5	26	140324362	OR metric 0060-30	10
3/5	27	147660562	Small valve piston	5
3/5	28	145856562	Water valve adapter	10
3/5	29	126764718	Cylinder spring	5
3/5	37	186053700	Switch	3
3/5	42	11006792	CPU connecting board set	3
3/5	43	12000440	PUSH-PUSH key	5
3/5	44	145898750	Male part	5
3/5	47	11009545	2 flat cable sets	3
4/5	05	12000140	Ulka pump	3
4/5	06	11001164	Connector set	3
4/5	07	140321961	OR 2031	10
4/5	08	229452100	Safety valve set	3
4/5	10	140328059	OR 2015	10
4/5	17	11001163	2 pole connector set	3
4/5	19	189428300	175° C Thermostat	3
4/5	20	11004555	Bleckman 230V resistor	3
4/5	27	11003342	Solenoid valve	3
4/5	28	12000892	Oetiker D 9.5 clamp	10
4/5	32	NF11.052	Oetiker clamp	10
4/5	38	11003559	Cable set	5
4/5	40	NV99.099	Turbine set	3

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N° Planche	Pos.	Code	Description	Qté en %
4/5	47	11005060	Pivot set	5
4/5	49	NM01.035	OR 0090-20	10
4/5	50	NM01.057	OR 0050-20	10
4/5	54	189428600	175° C Thermostat	3
4/5	56	11001522	NTC temperature sensor	3
4/5	57	11006731	230V boiler set	3
5/5	04	146520100	48x28 ceramic grinding wheel	3
5/5	14	11004354	Coffee grinder set	3
5/5	42	NE05.038	Micro-switch	5
5/5	43	9121.042	Z 108 gear	3
5/5	44	9121.042	Z 12/90 gear	3
5/5	51	11003037	Motor set for geared motor	3
5/5	53	186724200	Micro-switch	3
5/5	56	11003426	Coffee group	3

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CHAPTER 8
PROBLEMS CAUSES SOLUTIONS

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8.1 Problems - Causes - Solutions

Problems	Causes	Solutions
The machine will not power up	The machine is not connected to a power outlet	Have the mains connection checked
The coffee is not hot enough	The cups are cold	Warm the cups with hot water
The machine is not distributin g hot water or steam	The steam nozzle is obstructed	Remove the steam nozzle by pulling it downwards and clean it.
The coffee is served too slowly	The coffe is too finely ground	Change the mix
The coffee is served too quickly		Turn the grinder setting button to a higher setting
	The distribution group is dirty	Wash the distribution group
	The SBS system button is completely to the right	Turn the button to the left and then turn it to the right when the machine is distributing coffee
	The coffee is too coarsely ground	Change the mix
		Turn the grinder setting button to a lower setting
	The SBS system button is completely to the left	Turn the button to the right when the machine serves coffee
The machine takes to long to heat up and the quantity of water distributed through the nozzle is limited	There is scale in the machine circuit.	Carry out a de-scaling cycle
The distribution group cannot be removed	The distribution group is not in the right position.	Turn on the machine. Close the front panel; the group returns to its initial position and can be removed.
The coffee is spilling from the distributor	The drip tray is fitted	Remove the drip tray.
	The distribution group is not in the right position	Place the distributor correctly
	The distributor is blocked up	Remove the distributor and clean it
The coffee does not froth	The mix is not suitable or was roasted too long ago	Change the coffee mix.
	The coffee is too coarsely ground	Adjust the grinder
	The SBS button is turned to the left	Turn the SBS button to the right
Water is overflowing from the drip tray	The drip tray is full	Check the floater position and empty the drip tray

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